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PNEUMONIC FEVER—ITS SYMPTOMATOLOGY.

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SKIN.

The skin, in ordinary cases, is dry and hot—often pungently so—until the exudative stage is completed, whereupon a gentle perspiration appears. When sweating occurs it is usually first noticeable upon the head and parts of the body which are warmly covered, and is most abundant at night.[1] In weakly and anemic patients the perspiration usually comes on earlier than in others.[2] The appearance of moderate sweating after the height of the fever has been attained is generally followed by considerable relief to some of the most distressing symptoms and is of good import.[3]

Sturges[4] has never been able to satisfy himself that sweating was either of good or evil augury. Dietl[5] was of the opinion that no relief was afforded by early perspiration or by those induced by sudorifics, but in this view I can not coincide.

It is true that some of the most severe cases pass on to recovery with no indication of moisture of the skin, and that most of the fatal cases have sweated profusely, yet I think that the almost universal experience of the profession confirms the opinion that moderate perspiration is welcomed by both patient and physician. Some cases are remarkable for the excessive diaphoresis attending them. This usually denotes a dangerous case, and may be in itself an element of peril.

A very common picture of the latter end of a fatal case is as follows: There is dyspnea, cough without expectoration, tracheal râles, profound prostration, a weak and rapid pulse, coldness of the surface and extremities, blueness of the nails and a cyanosed skin from which a cold and clammy sweat is literally streaming. Such perspirations were noticed in the Plymouth[6] and other epidemics.

Sudamina may appear[7] in connection with profuse sweating. They are scattered over the entire surface, but are most abundant on the trunk. They are not peculiar to pneumonic fever.[8]

Other exceptions, *e. g.*, erythema,[9] vibices,[10] petechia,[11] purpura,[12] pustules, abscesses,[13] erysipelas,[14] etc., have also been observed.[15] Rose spots resembling those of typhoid fever are occasionally encountered.[16]

In Andral's thirty-seventh case[17] there was "an eruption of small miliary, transparent vesicles, surmounting a very small red patch, which was succeeded in three days by desquamation. The eruption covered the chest and abdomen and appeared on the twelfth day." In the Cincinnati epidemic of 1874 an eruption resembling lichen—with papules of a dull red color but without pruritis—was observed in many cases.[18]

Petechia are harbingers of death.[19]

When pneumonic fever complicates any of the acute exanthemata, the cutaneous eruption sometimes disappears upon the advent of the pulmonary symptoms.[20]

An herpetic eruption frequently appears upon the lips and borders of the nostrils, and occasionally upon the chin, about the eyes,[21] ears, anus, genitalia[22] and other parts of the surface. The vesicles[23] may, rarely, be seen in the prodromal stage,[24] but usually in from two to five days after the beginning of the attack. It has been stated[25] that the eruption is invariably preceded by rigor, but this has not been my experience, although in one of my cases successive crops of vesicles followed recurrent chills. In the case referred to there was no indication of a malarial taint, although I believe herpes is oftener encountered in pneumonic patients who are the subjects of malarial infection. It has been supposed that herpes was due to a disordered state of the blood,[26] but I think it quite clear that the nervous system is primarily at fault.[27]

Herpes was present in 43 per cent. of Bleuler's[28] cases; in 40 per cent. of Drasch's[29] cases; in 13 per cent of Folkmann's[30] cases; in 43 per cent. of Geisler's[31] 421 cases; in 36 of 220 cases reported by Hawkins[31]x; in 20 per cent. of Hermann's[32] 40 cases; in 34 per cent. of Rall's[33] cases; in all of Kissel's[34] cases in the Oberlahnstein epidemic of 1847; in 13 per cent of Lebert's[35] cases; in 20 per cent. of Scheef's[36] 44 cases; in 18 per cent. of Speck's[37] 50 cases; in 29 per cent. of Schapira's[38] 173 cases; in 20 per cent. of Stort's[39] 286 cases; in 7 per cent. of Townsend's[40] cases; in 47 per cent. of Waller's[41] 81 cases; in 50 per cent. of Wunderlich's[42] 50 cases; in 50 per cent. of Ziemssen's[43] cases, and in 26 per cent. of my 498 cases.

The appearance of herpes is of good import,[44] although some consider it of little or no prognostic value.[45]

Herpes zoster occasionally occurs in connection with pneumonic fever.[46]

This occurred in three of my cases. One of these presents some unusual features: A farmer, aged 74, the subject of subacute rheumatism and chronic bronchitis, suffered for a long time, in 1881, with lassitude and widely distributed pains in the muscles, bones, joints, stomach, etc., terminating in an abundant eruption of herpetic vesicles at the base of the chest on the left side, with relief to all his other symptoms. The eruption disappeared after a few weeks, leaving whitish spots of the size of a split pea and resembling scars following a superficial burn. A year later there was a recurrence of the herpes zoster in the same locality, with similar but less severe prodromata. In this instance instead of obtaining relief upon the appearance of the eruption, he suffered an attack of pneumonic fever, locally affecting the base of the left lung. There was severe pain, elevation of temperature, an acceleration of pulse and respiration, cough, expectoration of characteristic sputa, etc. There was dullness on percussion and auscultation revealed fine crackling, tubular breathing and moist râles. There was also present considerable cardiac irritability due to a moderate amount of aortic stenosis. Recovery ensued in due time, but similar attacks occurred in December, 1883, and February and August, 1884.

Bedsores on the sacrum may form in this disease,[47] but they must be very rare. They appeared in none of my cases.

A male, aged 24 was admitted into the U. S. Marine-Hospital, Cincinnati, March 6, 1889, with well-marked pneumonic

fever, and died five days later. Patient stated that he had felt perfectly well until the day before admission, when he had a severe chill. This was followed by nausea, headache, pain in the chest and limbs and cough. The day preceding death a large bedsore developed over the sacrum. Necropsy revealed hepatization of entire right lung.

Furunculosis has been noticed in isolated cases[48] and as a feature of some epidemics.[50]

In pneumonic fever the odor exhaled by the patient presents nothing peculiar except in typhoid[51] or fatal cases. So long ago as 1850, Skoda[52] was wont to point out a peculiar odor—an *odor mortis*—as a sure precursor of death in his pnuemonic patients. If this smell of death is of the same character as that referred to by Isham[53] as having been frequently noticed by himself since 1863, it is of a moschiferous nature, very peculiar, and having been once experienced is ever afterwards easily recognizable.[54] An odor of this kind I have encountered in a number of cases.

The peculiar and disagreeable odor noticed by Copland[55] in disease of the suprarenal capsules, the ammoniacal odor noticed by Badgley[56] and Drake[57] as emanating from emigrant fever patients, and that observed by Thompson[58] in phthisical patients are probably of different natures.

The color of the skin varies with the stage and character of the disease and constitutional peculiarities of the patient. In the early stages, in the plethoric, well nourished and thin-skinned it will be brightly flushed;[59] while in the pale, cachectic, thick and dark-skinned, and at a later stage of the disease, it will be pale and sallow.[60] At a late stage of the disease in grave and fatal cases the color of the skin often resembles the pale-yellowishness of carcinoma.[61] An ashen[62] or leaden hue is of very bad augury, patients usually surviving its appearance only a few hours, or at most one or two days.

A flushing or circumscribed redness of one or both cheeks is a very marked and a very common symptom.[63] The redness is usually of a brighter hue than that of the dusky cheeks of typhoid fever, although this distinction may not apply to the very worst forms of pneumonic fever. It is not so bright as the hectic flush of phthisis. Its margins are generally—not always—more sharply defined than are those of the typhoidal duskiness. It was formerly supposed that this redness of the cheeks, as well as that of the hand sometimes noticed in this disease, was always of the same side as the affected lung.[64] This is, however, by no means always the case. In a considerable number of cases in which I particularly observed this symptom it was noted that the flushed cheek was usually the one most applied to the pillow, and I believe that local pressure often locates the redness. The flushing is often migratory,[65] passing from one cheek to the other, and often appearing on the chin. It usually comes on early and may even precede the other symptoms.

Jaccoud[66] in his own person experienced a local flush on one cheek—which happened to be on the side opposite the ensuing pneumonic inflammation—twenty-four hours before the initial chill and whilst in apparent health. He has noticed the same phenomenon in five other cases.

The redness of the cheeks is due to a localized dilatation of the capillaries.

Mann[67] noticed as a common symptom in the New England epidemic of 1815 "a remarkable pink-colored suffusion over the whole face, distinct from the usual febrile redness of the cheeks—the face becoming, at the same time, puffed and bloated." This appearance was most conspicuous in individuals of a light complexion, and in some instances it was also extended to the body.

During an attack of pneumonic fever, nutrition is interfered with and the measure of this is very graphically portrayed in the depression in the nails and constriction in the hairs grown during the febrile period. Owing to the short duration of this period the phenomena referred to are less marked than in typhoid fever, yet they are distinctly noticeable. The depression in the nails is most marked in those of the thumbs. It is from one-twentieth to one-tenth of an inch broad, with an abrupt declivity at the distal margin, but rising gradually out of the depression to the full thickness of the nail on the proximal side. It becomes visible in about a month after the beginning of the illness, is thrust gradually forward as the nail grows and disappears in about five months.[68] The constriction of the hairs can only be thoroughly appreciated by a microscopic examination.

NUTRITION.

From the inception of the disease to the close of the attack there is a constant preponderance of waste over repair, with, consequently a steady loss of weight until about the end of the first week of convalescence. The loss of weight ranges from three to twenty-four ounces daily, on an average, according to the age and size of the patient.[69] The ordinary weight is rapidly regained during convalescence and it not infrequently increases to much above the former standard of health.[70]

PROSTRATION.

The degree of prostration is variable but it is always considerable and often great. The patient is almost always confined to his bed, although in some cases he may only be compelled to keep his room, and in yet other and rarer cases he may even walk about. Although usually confined to his bed, yet the patient can as a rule, arise to evacuate his bowels and bladder, and can sit up in bed to eat and drink. In some exceptional cases, however, he may be so weak as to be unable to raise his hand from the bed or to speak aloud, while in other, and even graver cases, prostration may be so slight as to attract but little notice. The degree of prostration is usually a correct measure of the gravity of the general disease, but bears no relation to the extent and character of the local lesions.

As an illustration of the slight weakness which occasionally attends severe or even fatal cases I may instance the case of a farmer, aged 33, whom I saw March 28, 1877. He had already been ill nine days, and the entire left lung was consolidated. The pulse was 140, respirations 60, temperature 106, face dusky, lips and tongue dry, teeth covered with sordes, urine retained and skin streaming with perspiration. His mind was perfectly clear. He was evidently moribund, yet, upon my entering his chamber he arose from the chair upon which he was sitting and, without aid, walked across the room—showing no indication of any great muscular weakness or that he was to die within a few hours, as was his fate.

The same fact was very forcibly impressed upon my mind by the case of an Irish ditcher who came to my office in 1874, complaining of an oppression of the chest and an inability to continue his work because of shortness of breath. His entire right lung was hepatized, yet he was not confined to his bed, had come to town a distance of three miles and had even essayed to work. He recovered promptly.[71]

On the contrary, the muscular weakness may be of the most pronounced character, with but a mild fever and slight local affection.

In the winter of 1878 I was called to see a large and very powerful man, 30 years of age, sick with pneumonic fever. He was most profoundly prostrated and barely escaped with his life, yet the fever was insignificant and a most searching

examination revealed the presence of only a trifling consolidation at the base of the left lung.

With convalescence, prostration usually gives place to rapidly returning strength, although the patient usually remains weak and easily exhausted for a long time.[72]

Muscular tremor sometimes occurs irrespective of previous addiction of the patient to the excessive use of alcohol, and when it appears it should be viewed with grave apprehensions. Incontinence of feces and retention of urine are not infrequently associated with profound prostration.

Subsultus tendinum is occasionally,[73] but rarely,[74] met with in this disease. I have encountered it in three fatal cases.[75] In these it was not so clearly marked as is usual in typhoid fever, yet it was perfectly distinct.

PHYSIOGNOMY.

Pneumonic fever is sometimes quite clearly portrayed in the patient's features and attitude, although not so frequently or unequivocally as in typhoid fever, obstructive heart disease, chronic Bright's disease, etc. Nevertheless in a certain proportion of cases the aspect is sufficiently characteristic to be of diagnostic importance.[76]

The face is flushed,[77] the lips dry and parched and the expression fixed and anxious.[78] Respiration is quick, catching and restrained and the patient speaks in short and broken sentences.[79] At the first view the beholder is impressed with the fact that he is in the presence of one who is laboring under a very grave disease which affects every fiber of his body.

As convalescence approaches the expression becomes suddenly and wonderfully changed. The patient breathes easier, his complaints cease, his mind and actions are quickened, the anxious expression vanishes and becomes restful, he experiences a sensation of relief which is mirrored in his face, he rejoices in a new lease of life and congratulates himself upon his escape from a great and imminent danger.

The positions assumed by the patient while lying in bed are so various as to defy description. Very often he can not lie upon the affected side because of the pain produced by the pressure, yet he as often lies upon this side[80] in order that the dyspnea may be relieved by free expansion of the sound side. Again, and this is most common, he is unable to lie upon either side and must maintain the dorsal position. He often lies upon the back, inclined to one or the other side. Some evince a propensity for slipping toward the foot of the bed, and when replaced are soon found to be again slipping down. This symptom is of evil import. As first pointed out by Aretæus,[81] some patients can not assume the recumbent position,[82] and must be propped up in bed or sit in a chair.[83] When the malady has nearly pursued its course an ability to lie upon either side, or a realization of a slipping down in bed, or from off the pillow, is an indication—often one of the earliest—of improvement.

Children sometimes assume a "gun-hammer" position,[84] with the face turned from the light or persons about the couch,[85] and evince a strong desire to be let alone.

TERMINATIONS.

Pneumonic fever ends in either recovery, invalidism or death. When the issue is successful the acute manifestations of the disease are either suddenly or gradually ended—termination by *crisis* or by *lysis*.

CRISIS.

Ordinarily pneumonic fever terminates by crisis, as has been the observation of physicians from the earliest days of medicine.[86] Whether or no crisis will be the termination may depend upon a variety of circumstances, *e. g.*, the extent and nature of the local lesions, amount and consistence of the pleuritic effusion, the recuperative powers of the patient and the character of the epidemic influences. If the local morbid action does not spread after the first brunt of the attack, all portions of the exudate will be ready for softening and removal at about the same time and crisis will be the most probable termination.

The physical signs of beginning resolution and crisis do not always run parallel. The former generally first appear in from twenty-four to forty-eight hours after crisis.[87]

Of 192 cases analyzed by Grisolle,[88] crisis antedated the stethoscopic signs by one or several days in 72; in 92 they were coeval and in 26 the auscultatory changes first appeared.

The shorter the duration of the attack the more certain it is that crisis will be the termination. Crisis is rare in cases continuing longer than nine days[89] and is uncommon after seven days.

Crisis may be marked by the occurrence of peculiar phenomena, *e. g.*, profuse perspiration, diarrhea, copious discharge of urine, epistaxis, collapse, hepatic eruptions, profound and prolonged sleep, etc.[90] The duration of crisis varies from one to several hours, as shown in the following table:[91]

TABLE VII.—SHOWING DURATION OF CRISIS.

	Bleuler.	Thomas.	Kocher.	Author.
0 to 6 hours	25.3%	1.9%	14.2%	7.8%
6 to 12 "		13.7%	34.6%	28.2%
12 to 24 "	21.6%	37.2%	30.3%	35.0%
24 to 36 "	29.4%	21.5%	8.1%	18.5%
Over 36 "	23.3%	25.4%	12.2%	10.5%

LYSIS.

A gradual defervescence — termination by lysis, occurs oftener than is supposed by many. Termination by lysis occurred oftener than by crisis in the 1,080 cases analyzed by the Collective Investigating Committee of the British Medical Association.[92] It is the usual ending of cases with a duration of more than eight or nine days. With such a termination it is often difficult to say precisely, where disease ends and convalescence begins.

DURATION.

Pneumonic fever is a disease having a pretty definite duration. Dating the commencement of the attack from the initial chill or other marked first symptom, and the beginning of convalescence at the time of permanent defervescence, the duration is usually from five to ten days, with an average of about one week.

Chomel[93] gives the duration of the disease as from seven to twenty-one days. Pasadski[94] analyzed forty-eight cases with an average duration of 7.6 days. Barthez[95] states that the duration is from four to eight days, and Lebert[96] five to seven days. Huss[97] found the duration usually from five to nine—often seven—days, and Lépine[98] six to nine days. The average duration of Folkmann's[99] 125 cases was twenty-two days. Auenbrugger[100] says that it is generally four days, rarely earlier, but often later. Tanner[101] places it at ten days, as do also Andral,[102] Bouillaud,[103] Watson,[104] Gerhardt[105] and others. Doubleday,[106] in 252 cases, found the average duration 12.5 days. Of thirty-two cases analyzed by Scheef[107]

the average duration was 5.5 days. In ninety cases reported in the U. S. Naval Reports[108] the average was 17.8 days, and of 366 cases analyzed by Hermann[109] it was thirty-two days.[110] It was 7.8 days in thirty cases analyzed by Satterthwaite.[111] Swett[112] says the duration is about two weeks, counting to the time the patient is able to sit up most of the time. Schuyler[113] says that the duration is from five to nine days, but it may be much longer.[114] Dietl[115] places the duration as follows: In a very few cases, three days; in many, five or six days; in most, seven to nine days; and in a few eleven to thirteen days. Flint[116] makes it eleven days. A number of observers have given the exact duration of their cases as shown in the following table:

TABLE VIII.—SHOWING DURATION OF PNEUMONIC FEVER.

	1	2	3	4	5	6	7	8	9	10	11	12	Total.
Andral [117]	.	.	.	3	2	6	23	2	4	11	13	29	112
Bleuler [118]	.	.	6	13	22	26	32	24	12	6	1	4	. .
Doubleday [119]	.	.	.	.	.	6	6	6	3	. .	5	5	. .
Fox [120]	.	.	.	1	. .	. .	. .	. .	1	. .	2	9	. .
Fricke [121]	.	1	6	13	22	26	24	23	18	5	5	8	162
Gerhard [122]	.	.	.	.	. .	. .	. .	2	. .	. .	4	12	. .
Kocher [123]	.	4	2	4	11	10	13	3	6	. .	1	. .	. .
Penkert [124]	1	3	3	9	3	8	11	2	2	. .	. .	. .	42
Rufz [125]	.	.	.	.	. .	. .	. .	. .	1	. .	2	10	. .
Satterthwaite [126]	1	. .	1	. .	4	4	6	2	4	3	. .	5	. .
Scheef [127]	.	2	4	5	9	3	2	5	. .	. .	. .	1	. .
Schwarz [128]	.	6	44	69	144	127	212	122	88	41	37	38	933
Thomas [129]	.	2	6	6	11	5	10	4	. .	2	. .	. .	505
Witte [130]	3	8	72	20	86	38	102	31	37	11	11	13	672
Wunderlich [131]	.	.	10	11	14	14	19	4	3	. .	. .	. .	. .
Townsend and Coolidge [132]	.	.	.	15	35	55	116	119	88	79	46	119	. .
Ziemssen [133]	.	.	9	3	31	5	35	4	9	. .	8	3	. .
Author	4	10	14	28	56	50	78	48	32	34	16	74	. .

Various circumstances may tend to materially contract or widen the bounds as above mentioned, yet the vast majority of cases will be found to fall within these limits. Thus, in certain states of the system, or from innocuity of the disease, or from the action of appropriate remedies, convalescence may begin at any time.[134]

Very rapid recoveries are denied by some,[135] but I am not only prepared to admit their occurrence, but several such are recorded in my case book.

On the contrary, unfavorable conditions of the patient, severity of the morbid processes or various complications may cause the attack to be protracted far beyond the extreme limits mentioned. Thus, cases are by no means rare in which convalescence is delayed for several weeks. The duration is increased if the patient is cachectic, dissipated, aged or of the female sex.[136] Also in apical and double cases.[137]

It has been thought that convalescence began oftener on odd than on even days, but I know of no facts to support the view.[138]

RESOLUTION.

Resolution of the local inflammation usually begins immediately, or soon after the decline of the fever, and proceeds with more or less rapidity until the exudate is completely removed. This may proceed with such rapidity that the physical signs may disappear in a few hours [139] or it may be greatly retarded.

In twenty-four cases analyzed by Stokes[140] the physical signs disappeared in one week in nine; in from one to two weeks in nine; in from two to three weeks in five, and in from three to four weeks in one. In twenty-six cases reported by Fox[141] they disappeared in two days in one; two to three days in three; on the fourth, fifth, and sixth days in one each; on the seventh day in three; on the ninth day in one; in from ten to fifteen days in nine; in from twenty to twenty-five days in five, and in from twenty-five to thirty days in one. In 150 cases analyzed by Bleuler[142] they disappeared on the first day in five; on the second day in two; on the third day in four; on the fourth day in two; on the fifth day in twenty-one; on the sixth day in thirty; on the seventh day in thirteen; on the eighth day in eleven; on the ninth day in five; in from ten to fifteen days in nineteen; in from fifteen to twenty days in six, and beyond twenty days in seven. In my own cases it was practicable to obtain information on the point in only 151 cases, and in these the physical signs were no longer recognizable after the first day in two; second day in two; third day in five; fourth day in nineteen; fifth day in twenty-four; sixth day in thirty-one; seventh day in fourteen; eighth day in ten; ninth day in seven; tenth to fifteenth day in sixteen; fifteenth to twentieth day in six, and after the twentieth day in seventeen.

In a certain small proportion of cases the local morbid action is of a fleeting nature and the inflammatory products are removed with remarkable rapidity. In this evanescent form the disease is not infrequently aborted [143]—the local inflammation being checked in any part of its course, with a precipitous disappearance of the physical signs. This may be due to the impress made upon the local morbid action or upon the general constitution by the rheumatic, gouty, scorbutic, typhus, typhoid or other poisons circulating in the blood, or by epidemic or medicinal influence.

In the epidemic of typhus fever which raged in Ireland in 1854–55, pulmonary complications were very common. The symptoms and signs of the first stage of pneumonic inflammation were suddenly developed, continued but a short time and subsided again with singular rapidity. Silently, rapidly and spontaneously was the disease developed, and equally as silently, rapidly and spontaneously did it disappear—flitting like a shadow across the path of the original disease, and leaving as little evidence of its presence.[144]

In some instances there may be a rapid and complete removal of the inflammation in a portion of the affected lung, while in the remainder it pursues an ordinary course.

A farmer, aged 37, twenty-two days ill with typhoid fever, was taken, Nov. 30, 1880, with pneumonic engorgement of the entire right lung. He had a frequent cough, moderate pain and distressing dyspnea. There was comparative dullness over the entire right side of the chest, and in this region the crepitant râle was everywhere heard. There was, in addition, active delirium, a dry and furred tongue, sordes, tympanitis, iliac gurgling, ochre diarrhea, subsultus tendinum, and a moist skin. He passed his urine in bed and was continually picking at the bed clothes. His pulse was 100, respirations 30 and temperature 101.5 degrees. After thirty hours the respiratory murmur and percussion note over the upper and lower lobes of the affected lung were almost, if not quite normal, while the middle lobe was completely hepatized—with dullness and tubular breathing. He expectorated characteristic pneumonic sputæ. Recovery ensued.[145]

This case illustrates the occurrence in the deeper organs of the body of conditions which are frequently seen upon the exterior.

Thus a patient presents himself with all the signs and symptoms of acute inflammation of the integument and subcutaneous areolar tissue of the entire fore-arm. There is pain, heat, redness, swelling and disordered function. On the morrow there is a decided change. In the central parts all the symptoms are present in increased severity and an elevated spot indicates the place where the abscess will point, while elsewhere the symptoms have almost disappeared. On the next day the abscess will have pointed, and will be surrounded by an areola of inflammation, while all the other parts have regained their normal condition. Such pictures have, no doubt, been often seen by every practitioner of medicine, but only too generally passed by as being a morbid process of too commonplace a nature to be worthy of a second thought. To the thoughtful student of nature, however, such phenomena illustrate in a graphic manner one of the most interesting and important problems in pathology with which the physician has to deal.

If inflammatory action may be aborted and inflammatory effusions be dispersed, as if by magic, in the superficial parts of the body, is it not reasonable to conclude that the same may take place in the deeper seated structures as well?

The "wandering" form of the disease, in which the morbid

action leaps from point to point is a curious feature which may be mentioned in this connection.[146]

Pneumonic fever as it is sometimes associated with rheumatism [147] is often of a very fugitive nature.

Trousseau [148] records two interesting cases of this form of the disease. The first was a young man who was admitted into the Hotel Dieu with all the symptoms of pneumonic fever. By the following day all traces of the malady had disappeared and there was developed rheumatism of the left foot. The second was that of a young woman with fever, redness and swelling of the left leg and foot, and severe pain in the entire left side of the body. The left side of the chest was especially painful, but no abnormal respiratory sounds were audible. During the night cough came on, and on the following day the signs of pneumonic inflammation were manifest and two or three pneumonic sputæ were expelled. On the next day the pulmonary symptoms had vanished.[149]

One of my cases is as follows: A girl, 6 years of age, was taken with rheumatism, locally affecting in turn almost every organ of the body. After the first fortnight, hemorrhage from various organs, as *e.g.*, the nose, mouth, eyes, stomach, intestines, kidneys, vagina, etc., and purpuric patches in the skin, together with spongy gums, gave the case a scorbutic character. On the eighth day pneumonic inflammation of the right lung set in, with the most distressing symptoms, which disappeared completely in thirty-six hours. Recovery eventually ensued.

In some cases convalescence is protracted over a prolonged period, because of delayed resolution of the pneumonic exudate.[150] This event is neither so rare nor so frequent as has been supposed by many writers. These cases vary infinitely in their severity, course and termination. In the mildest cases the acute symptoms subside almost entirely at the usual time, but, from some peculiarity of the exudation material, or of the local circulatory or absorbent systems, or from some unfavorable state of the general system, the products of inflammation remain for a longer or shorter time quiescent, to be finally removed in the ordinary manner. In other cases absorption begins promptly and proceeds continuously but because of the above conditions the process is very slow and an unusual length of time is required before the lung regains its normal state. The duration of these cases varies from a few weeks to several years.[151] They terminate in complete and permanent recovery.

A large, fleshy woman, aged 54, was taken Dec. 20, 1880, with an eighth attack of pneumonic fever. There was a severe rigor at night, followed by accelerated respiration, considerable dyspnea, incessant coughing, dark expectoration, fever, sleeplessness, delirium, diarrhea and involuntary passage of feces and urine, together with an assemblage of other symptoms usually recognized as indicating a very severe case. The local manifestations began at the base of the right lung and gradually advanced upward until the entire lung was involved. After the ninth day the acute symptoms gradually declined, yet frequent breathing, dyspnea upon slightest exertion, cough, scanty expectoration and weakness persisted. Resolution began promptly in the upper and middle lobes and was here soon completed, but at the base the evidence of consolidation remained unaltered for six weeks, after which the exudation was slowly, but gradually and completely removed in the course of a month. The entire duration of the attack was three months, with recovery. During the entire course of the disease, subsequent to the decline of the acute symptoms, the temperature was normal, and, after the first three weeks the appetite was good and the patient progressively gained in strength. The pulse, however, was always about 90, and would leap to 120 upon slight exertion or excitement. The respirations usually numbered 30, but ascending a flight of stairs would cause them to be 45 or 50, with marked oppression. Cough would appear upon awakening from sleep, after eating, deep breathing, changing position or exertion, was severe and convulsive and was accompanied by slight expectoration.

Even in childhood, resolution may be long delayed.

A little girl, aged 6, was taken Dec. 1, 1886, with pneumonic fever, locally affecting the lower two-thirds of the right lung. There was fever, pain referred to the epigastrium, cough, earache, epistaxis, restlessness, delirium, etc. After a week she improved somewhat, but three weeks later there was still slight fever, prostration, a troublesome cough, etc. The right side was almost motionless during respiration, with dullness as high as the third rib, bronchophony, tubular breathing and moist râles. She gradually improved but resolution was not completed until in March, 1887.

In the severer cases the picture must be cast quite differently. In these, as the stage approaches in which convalescence is usually declared, a decided improvement may take place, but the fever never entirely ceases. The cough continues and the pulse and respiration remain accelerated. The patient has no appetite, his digestion is impaired and he becomes progressively more and more cachectic, emaciated and prostrated. The fever takes on a hectic form, with diarrhea, night-sweats and perhaps dropsy, and the patient, worn out by the persistent cough, copious expectoration and terrible oppression, after a gradual decline, dies, or rarely, after passing fearfully near the brink of the grave, a change for the better takes place and he lapses into a condition of chronic invalidism, or astonishes every one by recovering.

A young man aged 21, was taken March 20, 1880, with pneumonic fever, locally affecting the base of the right lung. The case ran an ordinary, although severe course until the fourth day when the entire left lung became involved. On the tenth day he was much improved, almost free from fever, but his cough and expectoration continued. Subsequently he quit his bed and walked about, but continued weak and the pneumonic deposit was not absorbed. He emaciated so rapidly that his weight declined in four months from 160 to 115 pounds. In August he had complete obstruction of the bowels for twelve days, followed by alternating attacks of diarrhea and constipation, with a decline in weight to 108 pounds, but by December he weighed 120 pounds. During the following summer and winter his cough continued, the respirations increased to 60 or 80 per minute and he gradually lost weight, strength and hope, and only awaited death. There was extraordinary contraction of the thoracic walls, causing considerable lengthening of the chest. Over its greatest extent there was dullness, tubular breathing, bronchophony and increased vocal fremitus. At various places the resonance was tympanitic and the respiratory sounds loud and harsh. For three weeks before death, which occurred March 4, 1882, he suffered terribly from want of sleep, not being able to obtain more than a very few minutes at a time, when he would be awakened with a start and the most distressing dyspnea. At the autopsy both lungs were found very much contracted and universally adherent to the chest walls. In both apices the air vesicles and bronchi were dilated, while in the lower parts the lung tissue was light colored, hard, condensed and gristly, bearing but slight resemblance to healthy pulmonary tissue.[152]

A seaman, aged 40, exposed to cold winds while overheated, was attacked with pneumonic fever, locally affecting the whole of the right lung. On the tenth day a violent and uncontrollable diarrhea set in which continued for ten days. During this time there was a profuse perspiration which was greasy to the touch and offensive to the smell. The pulse was weak, temperature about 102 degrees, respirations 40 and noisy, tongue dry and coated with a thick dark fur and the teeth covered with sordes. The cough was frequent and there was expectorated without much effort an abundance of thick, dark and tenacious matter. He became very weak and the muscles were tremulous. After eight weeks the lung, which had changed in condition but little, began to gradually clear up, the cough moderated, the expectoration diminished, the hectic disappeared and he finally completely recovered.[153]

Occasionally this tendency toward a protracted course is a feature of entire epidemics. Not only this, but the type of the disease may be peculiar, both clinically and anatomically.[154]

Subsequent attacks of pneumonic fever may occur in a patient suffering from a cirrhotic condition of the lung due to a former attack.[155]

Bouillaud[156] relates a case in which a patient, after a second attack of pneumonic fever, remained dyspneaic, with dullness on percussion, until he was again attacked five years later. During the last attack there was much dyspnea, the respirations were 52, the alæ nasi dilated with each inspiration and there was a jerking resonance of the voice.

If the apex is the portion of lung affected it is often difficult, clinically, with an imperfect history of the course previously pursued by the malady, to decide whether the case be one of chronic pneumonic consolidation or phthisis, into which many of these cases eventuate.[157]

With the normal progress of resolution, cough and expectoration gradually decline and cease with the removal of the offending materials from the lungs.[158] When the patient is at rest respiration is easy and regular and but slightly if at all accelerated; but if active exercise is attempted there is noticeable oppression and a hurried, panting breathing. This gradually diminishes until it quite disappears.[159] The appetite gradually returns and all the digestive functions are properly performed, and with a preponderance of assimilation over waste, the heart rapidly regains its tone.

At the beginning of convalescence the patient is very weak, although as he lies in bed in moderate comfort he does not realize or appreciate the fact. It is only when he attempts any unusual exertion that he realizes the extent of his weakness. After a few days, however, his strength rapidly returns and in the majority of instances he will have fully regained his lost ground in from a fortnight to a month.

The patient sleeps much and his repose is quiet, restful and exhilarating. His mind is at ease and after a few days becomes remarkably clear and penetrating. He is not given to day dreaming or aërial castle building, but he perceives new possibilities all along the old lines of thought and effort, and, with complete recovery he proposes to again wage battle upon his chosen field of labor with renewed courage, energy and vigor.

While an extension of the local inflammation in pneumonic fever is of comparatively frequent occurrence a relapse[160]—recurrence of acute local and general symptoms during convalescence is a rare event.

Baginsky[161] never saw a case of relapse in this malady, although in two patients second attacks occurred very soon after convalescence was completed. Bourman[162] has reported a single case. Briquet[163] saw relapses in one-fifth of his cases. Binz[164] reports one case. Clark[165] and Carroll[166] each report cases as does also Edbohls.[167] Fismer[168] saw one case. Flint[169] never saw a case, while Fox[170] and Grimshaw[171] do not consider them very infrequent. Grisolle[172] met with relapses in 35 per cent. of his cases and Jacobi[173] considers them frequent in children. Kœttnitz[174] saw one case. Lépine,[175] Monthius,[176] Neumann[177] and Oulmont[178] report cases while Orton[179] never saw one and does not believe in their occurrence. Schuyler[180] says they are rare. Strong[181] reports a case. Walshe[182] thinks relapses rare, while Ziemssen[183] considers them not infrequent.[184] Relapses occurred in five —1 per cent.—of my cases.[185]

1 See also Chomel, Pneumonie, Leipzig, 1841, S. 138.
2 It not infrequently appears in the first stage. See also Huss, Lungenentzündung, Leipzig, 1861, S. 42;—et al.
3 See also Andral, Med. Clin., Phila., 1843, Vol. ii, p. 130-198.
4 Nat. Hist. Pneumonia, London, 1876, p. 52.
5 Lungenentzündung, Wien, 1849, S. 33.
6 Huxham, Epidem. Diseases, London, 1748, Vol. ii, p. 59.
7 See also Fox, Reynolds' Syst. Med. Phila., 1880, Vol. ii, p. 175;—Louis, Fiev. Typh., T. ii, p.111.
8 See Myrtle, London Lancet, 1887, Vol. ii, p. 1107.
9 See Chomel, op. cit., S. 167;—Fox, op. cit., p. 181;—Huss, op. cit.;—Rilliet et Barthez, Mal. des Enfants, Paris, 1838, p. 576;—Stortz, Inaug. Dissert., Würzb., 1884, S. 60;—et al. It was initial in the case reported by Arnaud, Rev. d. Mal. de la Enfant, 1893.
10 Murphy, Cincinnati Lancet and Observer, Nov. 1862, p. 663.
11 Huxham, op. cit., p. 59;—Holfelder, Inaug. Dissert.;—Heiss, Inaug. Dissert., München, 1857, S. 17;—Tüb., 1884, S. 5;—et al.
12 Lepecq de la Cloture, Mal. Epidem., Paris, 1776.
13 Chomel, op. cit., S. 249.
14 Carroll, Cincinnati Lancet and Observer, Aug. 1863, p. 473;—Frank, De Cur. Hom. Morb., 1792;—Grisolle, Traité de la Pneumonie, Paris, 1864;—et al.
15 See Baginsky, Pneumonie u. Pleuritis, Würzb., 1880, S. 100;—Heiss, Inaug. Diss., München, 1857, S. 17;—Huebner, Arch. f. k. Med., Bd. xxxi.
16 Chomel, op. cit., S. 139;—Louis, Fiev. Typhoide;—et al.
17 Op. cit., p. 162.
18 Davis, Cincinnati Lancet and Clinic, June 7, 1879, p. 444.
19 See Huxham, op. cit., p. 59;—Murphy, op. cit., p. 663;—et al.
20 Andral, op. cit., p. 183.
21 Battermann, Inaug. Dissert., Griefswald, 1882, S. 22.
22 Oftenest after recent genital irritation, or after coition, menstruation, etc.
23 The contents of the vesicles may be sanguinolent, as in the case reported by Holfelder, Inaug. Dissert., Tübingen, 1884, S. 6.
24 See also Waller, Inaug. Diss., Erlangen, 1877, S. 4.
25 See Ohio Med. Recorder, Jan. 1880, p. 365.
26 Schuyler, N. Y. Med. Jour., Sept. 1, 1883, p. 234.
27 See also Gerhardt, Volkmann's Vorträge, Nr. 91, S. 724.
28 Inaug. Diss., Zurich, 1865.
29 Canstatt's Jahresb, 1860, Bd. iii, S. 207.
30 Inaug. Dissert., Erlangen, 1847, S. 17.
31 Arch. d. Heilkunde, 1861, S. 115.
31x Lancet, April 1, 1893, p. 726.
32 Lungenentzündung, München, 1880, S. 36.
33 Pneumonie, Eulenberg, 1852, S. 159.
34 Klinik d. Brustkrankheiten, Tübingen, Bd. i.
35 Inaug. Diss., Erlangen, 1887, S. 33.
36 Inaug. Diss., Tübingen, 1882, S. 38.
37 Inaug. Diss., Marburg, 1870, S. 30.
38 Inaug. Diss., Würzb., 1877.
39 Inaug. Diss., Würzb., 1884, S. 58.
40 Jour. Am. Med. Assoc., Dec. 1, 1888, p. 789.
41 Op. cit., S. 4.
42 Inaug. Diss., Tüb., 1858, S. 29.
43 Pleuritis u. Pneumonie, Berlin, 1862;—Boyd, Jour. Am. Med. Asso., Nov. 16, 1889;—Batterman, Inaug. Dissert., Griefswald, 1882, S. 17;—Eulenberg, Berliner Klin. Wochenshr Nr. 18, 1867;—Gerhardt, Jenaisch. Zeitschr, Bd. ii, S. 349;—Hebra, Virchow, Spec. Path. u. Therap.
44 Beddoe, London Lancet, 1875;—Drasche, Canstatt's Jahresb., 1860, Bd. III, S. 207;—Fox, op. cit., p. 176;—Geisler, op. cit.;—Greisinger, Arch. d. Heilk., 1860, Bd. 1;—Lépine, Pneumonie, Wien., 1883, S. 165;—Moore, N. Y., Med. Rec., Sept. 10, 1887, p. 314;—Pause, Lungenentzünd., Leipzig, 1861, S. 13;—Raven, London Prac., Vol. xxxi, p. 39;—Sée, quoted by Lépine, op. cit., S. 165;—Thomas, Memorabilien, 1874, Nr. 9;—Waller, op. cit., S. 4;—It is considered of bad import by Hardy, Gaz. des hôp., June, 1878.
45 Folkmann, Inaug. Diss., Erlangen, 1847, S. 17;—Schapira, op. cit. S. 30.
46 See Jackson, London Lancet, 1887, Vol. 2, p. 1222;—Kaposi, Wiener Med. Presse, Nov. 14, 1875;—Kœttnitz, Inaug. Dissert., Halle, 1882, S. 250.
47 Andral, op. cit., p. 142;—Gibbon, London Lancet, N. Y., 1856, Vol. II, p. 521;—Homburger, Inaug. Dissert., Strassb., 1879, S. 39;—U. S. Marine Hosp. Rpts., 1889, p. 371;—Wilbrandt, Inaug. Diss., Rostock, 1862, S. 29.
48 U. S. Marine Hospt. Rpts., 1889, S. 371.
49 See Holt, N. Y. Med. Rec., Feb. 21, 1885, p. 202.
50 Chomel, op. cit., S. 249;—Haller, Opusc. Path., Laussannæ, 1755;—et al.
51 La Roche, Pneumonie, Phila., 1854, p. 370.
52 Quoted by Althaus, London Lancet, N. Y., 1881, Vol. ii, p. 102.
53 Cincinnati Lancet and Clinic, Sept. 4, 1875, and Am. Jour. Med. Sci., April, 1881, p. 430.
54 See also Graves and Stokes, Dublin Hosp. Rpts., Vol. iv, and Am. Jour. Med. Sci., Vol. i, p. 195. Hodgkin noticed an odor between a vinous and lilaceous before death.
55 Med. Dic. N. Y., 1855, Vol. iii, p. 1571.
56 Brit. Am. Jour. Vol. iv, p. 88.
57 Dis. Int. Valley of N. A., Phila., 1854, Vol. ii, p. 438.
58 London Lancet, N. Y., 1858, Vol. I, p. 185.
59 See Aretæus, Caus. et Sig. Morb.;—Cœlius Aurelianus, Morb. Acut. et Chron.;—Fox, op. cit., p. 176;—Rilliet et Barthez, Mal. des Enfants, Paris, 1838, T. I, p. 522;—et al.
60 See Lepecq de la Cloture, op. cit.;—et al.
61 Heiss, Inaug Diss., München, 1857, S. 17;—Chomel, op. cit., S. 144;—Gerhardt, Auscult. u Percuss., Tüb., 1866, S. 10.
62 Baginsky, Pneumonie u. Pleuritis, Würzb., 1880, S. 100.
63 Even so late as 1859 Mayer—Jahrb. f. Kinderhelk., 1859, S. 30, asserted that the redness of the cheek indicated the side affected.
64 See Chomel, op. cit., S. 145;—Copland, op. cit., Vol. ii, p. 880;—Gubler, L'Union méd., 1857;—Lépine, op. cit., S. 77;—et al.
65 See also Rilliet et Barthez, op. cit., p. 575;—Tanner, Clin. Med., Phila., 1871, p. 24;—Ziemssen, Pleuritis und Pneumonie, Berlin, 1862, S. 227;—et al.
66 Pathol. Intern. Paris, 1870, T. i, p. 28.
67 Medical Sketches, Dedham, 1816, p. 308.
68 See Wilks, London Lancet, Jan. 2, 1869, on this phenomenon in another connection.
69 Hershey—Phila. Med. News, July 18, 1891, p. 65, reports the case of a man who lost 23½ pounds in weight in ten days.
70 For further information consult Baginsky, Pneumonie u. Pleuritis, Würzb., 1880, S. 49;—Fox, Reynold's Syst. Med., Phila., 1880, Vol. ii, p. 183;—Lépine, Pneumonie, Wien, 1883, S. 75;—Reissell u. Huppert, Arch. d. Heilk., 1869;—Wachsmuth, ibid., 1865, S. 236;—Ziemssen, Jour. Am. Med. Assoc., Aug. 28, 1887, p. 258;—et al.
71 Dakeman—N. Y. Med. Rec., Aug. 3, 1889, p. 122, reports the case of a young man who worked at street paving during the first six days of an attack of pneumonic fever and did not subsequently take his bed. He recovered, although the entire right lung was consolidated.
72 For further information see Fox, op. cit., p. 163;—Kühn, Arch. f. k. Med., Bd. xvi;—Juergensen, London Lancet, 1884, Vol. ii, p. 27.
73 Fox, op. cit., p. 164.
74 Chomel, op. cit., S. 149.
75 See also U. S. Marine-Hospt. Rpts., 1887, p. 249.
76 Gerhard, Dis. Chest., Phila., 1860, p. 202, "diagnosed cases in the wards of the hospital by their physiognomy."
77 Sometimes dusky or earthy. See Fox, op. cit., p. 163.
78 May be dull and heavy. Fox, op. cit., p. 163, or distressed and appealing.
79 He is not apt to volunteer information, and replies to questions by direct answers and in the fewest possible words.

80 Cœlius Aurelianus, op. cit;—Heiss, op. cit., S. 11;—Laennec, Dis. Chest, N. Y., 1830, p. 220;—Schuyler, N. Y. Med. Jour., Oct. 13, 1893, p. 401.
81 Op. cit.
82 Copland, Med. Dic., Vol. iii, p. 1059.
83 Generally under these circumstances there are extensive pleuritic or pericardial effusions, valvular heart disease or cardiac thrombosis. See Sturges, Pneumonia, London, 1876, p. 32.
84 Starr, Trans. Int. Med. Cong., Wash., 1887;—Jenner, ibid.
85 Baginsky, op. cit., S. 17.
86 Auenbrugger, Inventum Novum, etc., Vien., 1761, sec. 22;—Baglivi, Prax. Med., Luyd., 1699;—Boerhaave, Aphorism, Luyd., 1721;—Chomel, Pneumonie, Leipzig, 1841, S. 157;—Cleghorn, Epidem. Dis. Minorica, London, 1762;—De Haen, Rat. Med., Vindob., 1757;—Doubleday, N. Y. Med. Rec., March 28, 1885, p. 343;—Galen, Opera Omnia, Venet., 1541;—Hippocrates, Opera Omnia, Venet,, 1737;—Hofmann, Opera, 1759;—Huss, Lungenentzündung, Leipzig, 1861, S. 27;—Huxham, Epidem. Diseases, London, 1745;—Lebert, Berliner k. Wochenschr., Sept. 4, 1871;—Raven, Practitioner, Vol. xxxi, p. 32;—Stahl, Obsv. Clin. Prac., Leipzig, 1735;—Sydenham, Opera Omnia, Amstl, 1683;—et al.
87 Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 182.
88 Traité de la Pneumonie, Paris, 1864, p. 300 et p. 311.
89 See Sturges, Pneumonia, London, 1876, p. 53.
90 See Cleghorn, op. cit.;—Grisolle, op. cit., p. 234;—Martin, Phila. Med. World, 1888, p. 65;—Scheef, Inaug. Diss., Tüb., S. 32;—Traube, Krisen u. kritische Tagen;—et al.
91 Compiled from the statistics of Bleuler, Inaug. Diss., Zürich, 1865;—Kocher, Pneumonie, u. s. w., Würzb., 1866, S. 31;—Thomas, Arch. d. Heilkunde, 1865, and the author.
92 Collective Investigation Record, Vol. iii, London, 1884.
93 Pneumonie, Leipzig, 1841, S. 153.
94 Ieshenedjelnaja klin., Gaz. Nr. 30, 1885.
95 Cincinnati Lancet and Observer, November, 1862, p. 669.
96 Berliner k. Wochenschr., Sept. 4, 1871.
97 Lungenentzündung, Leipzig, 1861, S. 28.
98 Pneumonie, Wien., 1883, S. 39.
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100 Inventum Novum, Vien., 1761, sec. 62.
101 Clin. Med., Phila., 1871, p. 246.
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103 Dic. Méd. Prat., Paris.
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105 Diseases of the Chest, Phila., 1860, p. 203.
106 New York Med. Rec., March 28, 1885, p. 343.
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108 For 1881 and 1882, Washington.
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112 Diseases of the Chest, N. Y., 1854, p. 85.
113 N. Y. Med. Jour., May 14, 1887, p. 542.
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126 Op. cit., p. 6.
127 Op. cit., S. 40.
128 Inaug Dissert., Erlangen, 1879, S. 4.
129 Op. cit.
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132 Spec. Path. u. Therap., Bd. ii, S. 334.
133 Pleuritis u Pneumonie, Berlin, 1862, S. 174.
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135 Dietl, op. cit.;—Peacock, Brit. Med. Jour., Nov. 19, 1881;—Waters, Dis. Chest, London.
136 Fox, op. cit., p. 205;—Huss, op. cit., S. 121.
137 Barthez, op. cit., p. 669;—Collec. Inv. Rec., Vol. ii;—Ziemssen, op. cit., S. 177.
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151 Bennett's, op. cit., case continued four, and Williams', Lancet, N. Y., 1862, Vol. ii, p. 7, fourteen years.
152 Taylor, U. S. Naval Rpts., 1881, p. 559. See another case in U. S. Marine Hospt. Rpts., 1887, p. 225.
153 See other cases and remarks by author in Chicago Med. Recorder, Jan., 1894, p. 54.
154 See Cotton, op cit., p. 150.
155 Chomel, op. cit., s. 328.
156 Am. Jour. Med. Sci., Vol. xiii, p. 244.
157 This feature will not be discussed, but see Chomel, op. cit., p. 289;—Flint, op. cit., 278;—Williams, London Lancet, 1862, Vol. ii, p. 3;—et al.
158 At first the cough may be very severe and convulsive, but after a few days it becomes so slight as to scarcely attract the attention of the patient.
159 In a few instances the patients find themselves "short of breath" upon attempting any unusual exertion for a long time after all other symptoms of the disease have disappeared.
160 See Niemeyer Seitz, Spec. Path., u. Therap.;—Stortz, Mettbolungen aus d, Würzb. med. Klinik;—Tordeus, Jour. de Méd, et de Chir. de Brux., Juin, 1877;—Thomas, Gerhardt's Handb. d. Kinderkrankh.;—et al.
161 Pneumonie u Pleuritis, Würzb., 1880, S. 62.
162 Jour. Am. Med. Assoc., Aug. 25, 1888, p. 268.
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178 Prog. Méd., 1877, No. 30 179 Jour. Am. Med. Assoc., Nov. 28, 1885, p. 615. 180 Ibid., Dec. 17, 1887, p. 779. 181 N. Y. Med. Jour., Aug. 25, 1883, p. 208. 182 Op. cit., p. 294. 183 Pleuritis u. Pneumonie, Berlin. 1862, S. 186. 184 See also Leudet, Clin. Méd., Paris, 1874, p. 509.
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CEREBRAL SIGNS AND SIMULATIONS IN PNEUMONIA.

Read before the Forty-eighth Annual Session Wisconsin State Medical Society.

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It is probable that the various papers on the different inflammatory diseases of the lungs, to be presented by this Committee, will take into account the cerebral complications and counterfeits often present, as well as other more frequent, if less serious, complications; and perhaps so fully that anything more would be superfluous. Still, the relative frequency and importance of these cerebral manifestations, grown more frequent and more important since the Russian influenza added its baleful quota to the list of human ills, gives good reason for something of repetition. Indeed, when different writers discuss the subdivisions of lung inflammations practically, that is from the standpoint of bedside observation, there will be much of repetition all through, for at the bedside we find few of those distinct entities which the text-books delight to photograph and catalogue, but instead, a mixture of conditions which baffle rather than invite either delineation or classification.

Again, contrary to what was first confidently expected from the disclosures of bacteriology, the discovery of the specific germ of pneumonia, far from conferring upon that disease well-defined and easily known boundaries, actually added to their vagueness and uncertainty, so that what the culture tube and microscope might determine to be a pneumonia might nevertheless be proven by the stethoscope and percussion hammer to be a pleuritis or a pericarditis or, perhaps, all three.

The co-existence of these or other lesions as the result of pneumonic infection is always of great clinical interest, but its discovery is not always of vital importance, judged by its practical application to treatment. When, however, this infection invades cerebral or meningeal structures, or, originating there, invades later the lung, the case is different, for now it is of vital concern to make out the graver condition, to the end that appropriate changes in treatment may be made, and in time.

What determines this invasion of regions anatomically so remote and dissimilar? So far the question does not seem to have been definitely answered. Fränkel, Weichselbaum and others have found the diplococcus of pneumonia within the membranes and ventricles of the brain coincidently with an attack of pneumonia, and also when that disease was not present. Similarly the influenza bacillus of Pfeiffer and the pneumococcus of Friedlander have been found in those situations, and, to further illustrate the neighborly relations in misfortune of the brain and lungs, cerebro-spinal meningitis is often followed by pneumonitis, the specific germ of the former being found in the lungs.

Perhaps, however, it should be said that the common germ of both is found in the lungs after the previous invasion of the membranes of the brain or spinal cord, since it looks the same, whether found in one inflammation or the other. So, also, the same mixed infections may be present when these inflammations coexist, as by any of the pyococci.

Bacteriology has thus thrown a flood of light upon what was formerly looked upon as the strangest coincidence of distinct diseases, and reduced to law the most erratic vagaries of morbid processes. Now we expect that with every epidemic of cerebro-spinal fever, some—few or many—cases of lung complications will occur, and, *vice versa*, that a generally prevalent pneumonic fever will have its quota of brain cases, and that each, in epidemic or endemic form, will be haunted by the independent presence of the other.

The existence, then, of these mutual relations being known, it would be naturally inferred that they could be promptly recognized when present, but actual experience shows that this is not always easy to do. With young children especially, some of the most striking symptoms are common to both, nor are they necessarily different in character or degree. This is particularly true of fever, headache, vomiting and delirium, and it will often be true of the pulse, respiration and certain nervous signs, like the contracted or dilated pupil, regional hyperesthesias, and the like. As for temperature, while it would be expected to run higher in meningeal inflammations, it is not uncommon for it to remain relatively low throughout. Thus, the temperature of uncomplicated pneumonia often reaches 105 degrees or higher, while a case complicated by meningitis may show no higher range than 102 or 103. Nor will sudden variations make the discrimination any easier, for a rapid rise from 102 to 105 degrees may, and usually does, come from those still mysterious factors in the production and dissipation of heat supplied by the specific toxinaemia of the pneumonic inflammation, or, again, from the septic effects of pyogenic bacteria. Since the same chronic causes are operative in cerebral complications it follows that a feeble toxinaemia would be attended by a moderate temperature, always excepting the direct irritating effects of an inflammation involving heat centers, or pressure effects of large effusions upon the medulla.

Headache is often a prominent symptom in pneumonia with or without complication, but I have seen no case where it afforded help in making a discriminating diagnosis. Sometimes the restlessness and violence of the patient will be attributed to intense headache, but it is very rarely that he complains specifically of this, as is often done in cerebro spinal fever. It has seemed to me that other regional neuralgias and hyperesthesias have more diagnostic value than this, but they also have their perplexities, for, occurring in the chest, they may be explained by the presence of the existing inflammation, and it is only when this last is deep-seated in the insensitive region of the interior of the lung, that it can be eliminated as a cause of pain. Occurring in the extremities they are far more significant, and when is superadded tonic of clonic spasm it is made tolerably certain that the membranes of the cord, at least, are involved in the morbid process, although it must not be forgotten that these, too, are sometimes present when, at most, a meningitis can be only suspected.

As an early symptom in pneumonia, vomiting is present in from 30 to 60 per cent. of cases, according to the experience of different observers. Exceptionally it continues throughout the disease. By itself, therefore, it is only in such cases that it could justly arouse the suspicion of meningeal complications. There is a peculiar explosive vomiting, or a

passive regurgitation, without previous or attendant nausea, which is believed to come from a central irritation through the vagus; but this, too, may be seen when the cerebral structures are intact, so far as can be judged by attending symptoms. Correspondingly, the nausea and vomiting characteristic of gastric irritation as commonly observed may be the stomach symptom of a well-marked menengitis.

Certain forms of delirium, particularly the violent kind occurring before the last days of the disease, or the half-stupor which seems to observe without taking cognizance of the sights and sounds of the sick-room, afford a strong presumption of brain trouble, but they are not proof of this, since they occur fairly often without it. But with it the delirium may be quiet and unalarming till it verges to stupor and unconsciousness.

By itself, the pulse does not afford a criterion by which to judge, unless extreme rapidity be replaced by abnormal slowness. This would be fairly pathognomonic of intracranial pressure, unless it could be explained by some cardiac depressant administered in treatment. But it goes without saying that the significance of all symptoms present should be read in full remembrance of remedies employed and their natural results.

A rapid, more or less cordy pulse, characteristic of serous inflammations is apt to be present, but the pulse of resistance that goes with parenchymatous inflammations may not always be easily known from it. In general, it may be said that, with the exception noted, the pulse gives but little aid in making a discriminating diagnosis.

Usually the respiration has greater significance than the signs and symptoms already mentioned. It may be alike rapid and fairly even in both simple and complicated pneumonia, but irregularity, particularly of the Cheyne-Stokes character, and abnormal slowness, or both, point strongly to a crippled medulla, and a sudden cessation of breathing, from a basal pressure, may all too late give the first positive evidence of a brain complication.

For me the pupillary signs are the most positive, excepting, possibly, the muscular, afforded in the whole history of the case. Exceptionally, without cerebral lesion the little patient's eyes may be bright and glistening, intolerant of light, irregular of pupil—which may be contracted or widely dilated, and as some affirm, the eyes may be distinctly squinted; but such an array of signs should point to the brain, and if the pupils be of unequal size, or insensitive to light, or momentarily contracting to dilate widely in the presence of strong light, then, in my opinion, the evidence should be considered as well-nigh complete.

Reverting to muscular signs, it should be stated that clonic spasms early in the sickness are usually not indicative of nervous lesions. They are regarded by the older writers as having a like significance to the chill in older patients. Now, however, it would be more rational to attribute them to the irritating effects of microbic toxins upon the appropriate motor centers. When we remember how mixed the pulmonary infection may be, how Pfeiffer's bacillus of influenza may reinforce Fränkel's or Friedlander's pneumococcus, or both, and how one or more of the pyococci may join this coalition against the health and life of the little patient, it is not strange that this mixed intoxication should have varied and alarming effects upon the sensitive brain and cord, nor is it strange that they should not always be easy of analysis. Tonic rigidity of the nuchal muscles and those of the back and extremities has long been regarded as significant of meningeal inflammation, and it would be well to regard it as a positive sign. But if to this be added the eye symptoms already spoken of, or the characteristic vomiting without nausea, the diagnosis would admit of no doubt whatever.

Auditory symptoms will sometimes be available when others are absent or few. There may be a hypersensitive hearing, or impairment or loss of this sense. In the few cases I have seen where either of these has been present it has been the former. It should probably have the lesser diagnostic meaning, as it may doubtless occur when neither the center of hearing nor the auditory nerve in any portion of its course is affected.

The middle ear, as an *atrium infectionis*, should not be lost sight of. Especially in the broncho-pneumonia of influenza, though other forms do not always leave the tube and middle ear inviolate, the danger of tympanic inflammation is very great; and, once present, it involves all the risks to adjacent structures which are known to attend such diseases from commoner causes. A resulting thrombo-phlebitis and following abscess might show focal signs according to its location and the extent of pressure.

Focal symptoms might also supervene upon the occurrence of embolism, depending upon the region made anemic by the arterial plug. Remembering the hyperinosis usually present in croupous pneumonia, and that clot is not an infrequent incident, should a local paralysis suddenly occur it would be safe to assume that the corresponding cerebral circulation had been occluded by clot. This is all the more certain if, as usual, it happens before the decline of the inflammation, for the brain sequels of middle ear diseases are of later origin.

In my experience, meningitis is more apt to recur as a complication in endemic than in epidemic or sporadic pneumonia; but this is limited, being based upon only two instances. In the first, of three cases occurring in one family two died of meningitis, well-marked symptoms presenting after more or less extensive lobar exudation. In another family, living but a few rods away, out of two cases, one died of meningitis. All of these, and some dozen more of simple pneumonia in the same neighborhood, were nearly cotemporaneous. Neighboring towns had few or no cases.

Four or five years ago, also, Neenah had a visitation of mild pneumonia, and out of the cases I saw two had most of the signs characteristic of meningitis, and two or three others many of them. No deaths occurred, but in the two I could not avoid a diagnosis of brain complication.

This experience is much too limited to generalize from, but it will lead me to look for like coincidences in future endemics, and, if nothing more, to greater alertness in the discovery and comprehension of early cerebral signs.

From what has been said, a further point of practical interest might be inferred, but it will not be amiss to speak of it. Not only the simulations, but the signs likewise, of pneumonic fever, will sometimes mislead; for as it happens not seldom that a distinct limited exudation may be positively made out

one day to be positively and forever lost the next, so it may happen that slight pulmonary sounds may be attended by alarming cerebral signs, and all replaced in a day or two by evidences of the most extensive lobar exudation. In such cases it is well for the attending physician if the consultant see them before the miraculous transformation, if at all, for he will thereby be saved some mortification of spirit, although the latter will miss the glory of finding out, or seeming to find out, what his colleague had blindly overlooked.

IS MEMBRANOUS CROUP DIPHTHERIA?

Read before the Indiana State Medical Society at Indianapolis, May 17, 1894.

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Notwithstanding the investigations which this question has provoked during the last decade, there is still quite a diversity of opinion concerning the identity of these two affections, and considerable time must yet elapse ere a positive answer may be given to the query which forms the title of this paper.

The desire of the writer is to stimulate an interest upon this subject in the Society, and to bring about a thorough discussion upon it, believing, as he does, that a free interchange of ideas and experiences is one method by which an elucidation of the problem may be brought about.

In the past few years the bacteriologist and microscopist have stepped prominently to the foreground, and to their indefatigable labors and their valuable investigations and experimentation are we indebted for the marvelously rapid strides forward which medical science has taken. Our ideas of the etiology of disease have radically changed, and in consequence of our increased knowledge in this direction our methods of preventing and treating disease have become much more effective.

Through these bacteriologic investigations the discussion has arisen concerning the identity of membranous croup and diphtheria, and although the investigations in this matter may be said to be yet in their infancy, they have proceeded sufficiently far to convince many of the workers that the two diseases are one and the same, viewed from an etiologic standpoint.

As I stated, however, these investigations have but recently been commenced, and in this controversy I fear that we have depended too largely upon the statements of our friends, the bacteriologists, and paid insufficient attention to those men who see disease at the bedside as well as in the laboratory. The opinions of intelligent men who are daily in contact with the clinical manifestations of disease are certainly of great importance.

In treating this subject, I shall commence with the consideration of the etiology of diphtheria, as it is generally accepted at the present time. Without burdening you with a discussion of the predisposing causes, with which you are all familiar, I will proceed at once to the exciting cause which is contagion.

The disease is now known to be transmitted by a specific organism, and this is known as the Klebs-Löffler bacillus, which was first described by Klebs and afterwards more extensively studied by Löffler. The production of the false membrane is the primary or local result, while the secondary or constitutional symptoms are due to the absorption of the poison generated by the Klebs-Löffler bacillus.

In the examination of the diphtheritic membrane, however, it has not uncommonly occurred that the characteristic bacillus was absent, and only streptococci, staphylococci, and at times other cocci were present.

The streptococcus, staphylococus, etc., were also found in those cases, wherein the Klebs-Löffler bacillus existed, and in these cases the attacks were almost invariably more severe than when these cocci were absent. This fact has been accounted for by the supposition that these cocci penetrated parts that the Klebs-Löffler bacillus did not reach, it being confined entirely to the membrane.

Baginsky, in a paper recently read before the Berlin Medical Society gave the following statistics: Out of 154 cases of diphtheria he obtained cultures of the Klebs-Löffler bacillus in 118 instances. In the remaining thirty-six cases the streptococcus and staphylococcus alone were found; of this latter class, thirty-two of the cases terminated in complete recovery, unhindered by any complications.

From these observations, Baginsky is strongly inclined to the opinion that there occur two separate and distinct forms of diphtheria; a true diphtheria having for its cause the Klebs-Löffler bacillus; and a pseudo-diphtheria, in which streptococci and other cocci are the etiologic factors. Dr. T. M. Prudden, of New York, publishes an account of his investigations, which comprises twenty-four cases. A vast majority of these cases occurred as a complication or sequel to scarlatina, and in none was he able to demonstrate the presence of the Klebs-Löffler bacillus. Martin publishes an account of the examination of 200 cases, in 79 of which the characteristic bacillus was absent, and in this latter class the mortality was very markedly lower than in those cases characterized by the presence of this bacillus.

Dr. Wm. H. Park, of New York, states that in 127 cases in which the Klebs-Löffler bacillus was found to be present, the mortality was 34.2 per cent. while in 79 cases in which it was absent, the mortality was but 4.3 per cent. Park also says:[1] "The inflammation caused by the streptococci and to a less extent by other cocci, differ greatly. They may be conveniently divided into:

1. Pseudo-membranous angina.
2. Pseudo-membranous laryngitis.
3. Croupous tonsillitis.
4. Follicular tonsillitis.
5. Acute pharyngitis and tonsillitis without exudate.
6. Cases similar to all the preceding, but complicating infectious diseases."

From the above facts I would glean the following points, the correctness of which is accepted by many.

1. That those cases which we have heretofore diagnosed as diphtheria are divided into two classes, one of which constitutes true diphtheria, the etiologic factor of which is the Klebs-Löffler bacillus, while the other class consists of cases of exudative tonsillitis or pharyngitis, caused by the presence of streptococci, staphylococci, etc.

2. That true diphtheria is a disease attended with a very high death rate, the severity of the affection

[1] Annual of the Universal Medical Sciences, 1893, Vol. 1.

being caused by the absorption of a toxalbumin, which is generated by the Klebs-Löffler bacillus, and which produces septicemia, paralysis, albuminuria, ganglionic engorgements, etc.

3. That uncomplicated exudative pharyngitis or tonsillitis (so-called pseudo-diphtheria) is followed in a vast majority of cases by complete recovery.

4. That only the true diphtheria is contagious.

I will next briefly consider the etiology of that affection known as membranous croup. The exciting causes of this affection were until recently supposed to be exposure to cold and moisture, and the infectious diseases, contagion having no etiologic importance.

It is now claimed by many writers of authority that the disease is produced by the Klebs-Löffler bacillus, and is in consequence diphtheria.

Frankel records four cases of idiopathic membranous laryngitis, in none of which was there any membrane found in the fauces either before or after death; but in all four of these cases pure cultures of the Klebs-Löffler bacillus were obtained; and he concludes as a result of his investigations that idiopathic membranous laryngitis and diphtheria are etiologically identical.

Other investigators whose opinions are also worthy of respect and consideration have arrived at practically the same conclusion.

It should be remembered, however, that the examinations of the membrane of croup have been comparatively few, and, although we have proof positive that many cases of croup are in reality true diphtheria, the investigations have not as yet proceeded sufficiently far to admit of the opinion that all cases are produced by the characteristic diphtheria bacillus, or to make such opinions of any great value.

If, however, this is the case, then membranous croup must of necessity be a highly contagious disease, and right here is the stumbling block in the pathway of the advocates of this theory.

In studying the literature of the subject I have been unable to obtain any tangible evidence of the contagiousness of this affection. On the contrary, I find abundant testimony to the effect that the possibility of communication from one to another does not exist.

Osler, in his recent work on the "Practice of Medicine," states that he has twice observed cases of membranous croup in the Infants' Home in Baltimore where the conditions favorable to the spread of the disease existed, yet no other cases occurred. Other authorities agree with this opinion.

It has been my own misfortune to have had in my charge, at various times, four cases which I believed to be idiopathic membranous laryngitis, the last one occurring about one year ago.

At the time of my attendance upon these cases I gave little or no thought to the possibility of contagion, especially as there was no exudate visible on the fauces. Consequently no precautionary measures whatsoever were taken. The patients were not isolated, other children being allowed the freedom of the sick chamber.

In each of these cases there were other children in the family, of an age rendering them susceptible to contagion. In one other family there were four other children under the age of twelve years. Neighbor children were also allowed by the family in and out of the room and were frequently in close contact to patient. This occurred in two cases. In not one of these four families did there develop a case of diphtheria, neither was there an appearance of the disease in any of these neighborhoods. It seems to me that these cases would have formed excellent nuclei for an epidemic had the trouble been true diphtheria.

Such experiences have occurred, I have no doubt, to nearly every one within the sound of my voice. What would be the result if we were to handle a case of diphtheria in this fashion? We would undoubtedly have a nest of diphtheria to pay for our negligence. It may be said in answer to this, that in the majority of cases we have but one patient in the family, the disease not extending to other members. This is true, but the precaution every physician takes to prevent the spread of the disease is the reason for it. How many physicians five years ago took these same precautionary measures in membranous croup?

In further support of the view that many cases of membranous laryngitis are due to causes other than diphtheria, permit me to briefly present some statistical facts.[2] From 1775 to 1850, diphtheria was almost or quite unknown in this country and in Great Britain, but many cases of non-contagious membranous laryngitis occurred during this period.

In Philadelphia from 1846 to 1849 the annual mortality from croup was from 111 to 312. No deaths from diphtheria are recorded during this period. From 1860 to 1879 the annual mortality from croup ranged from 185 to 455, while from diphtheria it was from 110 to 708.

Previous to 1859, when diphtheria made its appearance in Philadelphia, there had occurred altogether 3,078 deaths from croup, during which period no diphtheria was encountered so far as is known.

In New York City previous to 1858, but three deaths from diphtheria occurred during the present century, while croup had been more or less prevalent.

From 1858 to 1875 the annual death rate from croup ranged from 338 to 758, while that from diphtheria was from 5 to 2, 329. Dr. Lewis Smith, in this connection makes the following observation: "It is evident that most of the cases of croup occurring in New York prior to 1858 were due to other causes than diphtheria. It seems hardly probable that so many cases occurring in the hands of hundreds of skilled practitioners should have presented none of those symptoms which we now recognize as characteristic of diphtheria, especially septicemia. It is probably an acute, non-contagious, non-infectious inflammation of the larynx, local in character. But there is also a true diphtheria (laryngeal), and this is the more common form at the present time."

The two diseases present some differences in their clinical aspects. In diphtheria the initial symptoms are slight chilliness, fever, aching in back and limbs, etc. In croup the first symptoms are slight hoarseness accompanied by a rough cough, while there is little or no elevation of temperature.

In diphtheria, the temperature gradually rises, generally reaching 108 or higher, while in croup the temperature is ordinarily much lower than this and not infrequently it remains normal. In diphtheria the first indication of local trouble is slight redness of the fauces and more or less difficulty in deglutition. In croup we have in addition to the cough and hoarseness, which gradually increase in severity,

[2] Reference, Handbook of Medical Sciences.

dyspnea, which gradually becomes more and more intense.

In diphtheria, the exudate in the vast majority of cases makes its initial appearance upon the tonsils, later extending to the pillars of the fauces, the uvula and even to the posterior pharyngeal wall; later, in some cases extending into the posterior nares or downward into the larynx, trachea and bronchi. In croup, the membrane invariably first appears in the larynx, from this point extending upward or downward or both. In diphtheria, we generally have a characteristic glandular swelling, which is absent in croup. Constitutional symptoms are prominent in the former disease and absent in the latter. In croup, all the symptoms are rapidly increased in severity, the dyspnea becoming intense. Cyanosis soon appears, and death generally closes the scene.

Should the diphtheria be laryngeal in character, there would not be such a wide divergence in the symptoms. Still the fever would be higher than in croup, glandular swelling would occur and the constitutional symptoms be marked.

Two of the cases of croup in my own practice, to which I referred, had absolutely no rise of temperature at any time, and in all four of the cases no glandular swelling existed and no symptoms characteristic of diphtheria were present.

In the earlier portion of this paper we have seen that there occurs a true diphtheria, highly contagious and very fatal; and a so-called pseudo diphtheria not contagious and much less fatal than the former affection. We have seen that the etiology of these two diseases is very different.

Is it not possible, nay, even probable, that these same conditions prevail with reference to the laryngeal mucous membrane? I would answer the question affirmatively, and would further strengthen this opinion by studying the history of diphtheria and croup as they occurred in this country during the present century, and to a certain extent by the study of the clinical manifestations of the two affections.

The conclusions, then, which I have reached are as follows:

1. That there are two forms of membranous laryngitis; one a true diphtheria, produced by the Klebs-Löffler bacillus and the other non-contagious membranous laryngitis, produced, if you please, by streptococci, staphylococci, etc.; and that both of these types are very fatal.

2 That membranous croup as we have heretofore understood it, is a disease of much less frequency than was formerly supposed.

3. That it being impracticable to make a bacteriologic examination of the membrane in many cases, and as this is the only method by which we may be absolutely positive of our diagnosis, the same precautionary measures should be taken to prevent a possible spread of the disease as would be adopted in a case known to be diphtheria.

Those who believe that a non-contagious membranous croup does not exist will hardly be favorably impressed with the idea of carding the house, isolating the child, and causing any other children who may be members of the family, to remain from school for several weeks, but in the light of our present knowledge upon the subject it is the only safe method to pursue, unless a careful microscopic examination by a competent bacteriologist has demonstrated the absence of the Klebs-Löffler bacillus.

ON LOCAL ANESTHESIA PRODUCED BY INTRACUTANEOUS INJECTIONS.

BY DR. CHOLEWA.
BERLIN, GERMANY.

[The following paper was sent to me by the writer, my old friend, the well-known aurist of Berlin, Germany, with the request that I look it over and have it published here. He was induced to write the essay, not only because he found the method described of great value in the practice of his own specialty, but out of gratitude to Dr. Schleich (the originator of it), who performed an operation upon him that under ordinary circumstances would have required a general anesthetic. This otherwise very painful surgical procedure was carried out with perfect comfort to the patient, by employing the local "infiltration-anesthesia" method, which he describes.—CASEY A. WOOD.]

In the winter of 1891, a young surgeon gave a discourse on infiltration-anesthesia before the Berlin Medical Society which excited great interest. That is saying a great deal, since this Society, the greatest and most famous in Germany, consists mostly of professors in the University as well as the heads of the great hospitals in almost equal numbers. He who aspires to address this scientific body must be very sure of his subject, for he will have to suffer a most merciless criticism.

Prof. Virchow is the President of this Society, and who does not know the sharp tongue and the caustic wit of this gentleman, who has so often promoted as well as humiliated scientific efforts? But this young physician *was* master of his subject. A numerous array of cured patients surrounded him and were introduced to the audience by him, in order that his colleagues might with their own eyes see, and with their own ears hear, and investigate. He did not discuss the ability to operate without pain in the various branches of minor surgery only, but asserted that capital operations could be done by his method. For example, he exhibited one case in which an ovarian tumor weighing many pounds was removed and the woman did not faint once during the long operation. An old man showed scars on his thigh which were left by a carbuncle extending from the trochanter of the femur to the bend of the knee, and yet this old man had in this case undergone a very severe operation without the use of one single drop of chloroform! The applause, the enthusiasm, especially among the younger members of our profession, was general; it rose to rapture when a young colleague showed the assembly his finger, to which a short time previously this method had been applied by the author, after which a deep but painless incision was made into a well developed whitlow.

How many since this never-to-be-forgotten evening have been treated with this method; how many have been freed from the danger of chloroform and from their own dread of employing it! Over and over again this method of infiltration-anesthesia has been employed in hundreds of cases, simply because surgeons prefer infiltration-anesthesia to the anxiety of a chloroform-narcosis, the dangers of which stand in no proportion to the importance of the operation.

In what respect does this method differ from other local anesthesiæ?

Inasmuch as the description of the first reception of this method by the medical world was witnessed by myself, in explaining it I beg permission to use the words of the master who discovered it. In the spring of 1892, Dr. Schleich took the opportunity, at the annual meeting of the Head Surgeons at the Langen-

beck Haus, to lay before the assembled colleagues the management of his method in the following words:

INFILTRATION-ANESTHESIA AND ITS RELATION TO GENERAL ANESTHESIA.

The efforts hitherto made to perform painless operations by means of local anesthesia have not been very successful. To all the methods of local anesthesia hitherto employed, was opposed a danger in one or another direction. Anesthesia produced by vaporization of ether, or mixtures of ether, brought with it the danger of gangrene of the frozen tissues, to which was added great pain, especially of the inflamed parts during the freezing, thus considerably diminishing the advantages of the process. The dangers of poison were opposed to the general use of cocain, that most excellent of all local anesthetics. To this must be added that the pricking with the Pravaz needle and the act of injection itself, especially into the inflamed parts, was so painful that the procedure was considerably robbed of its value. By the employment of the ether-spray as a preliminary to anesthesia by means of cocain injections, I succeeded to some degree in avoiding this evil. The surface of the skin above the part to be made anesthetic became sufficiently insensible by the ether-vaporization to render painless the introduction of the needle. The contents of the syringe entered first into the skin (intracutaneous), and not under the skin (subcutaneous). If I am not mistaken, it was our colleague, H. Schmidt (of Stettin), who first suggested the necessity of these primary intracutaneous injections. I have for many years very frequently performed operations by this species of cocain anesthesia, and have reported several cases. Nevertheless, after the application of solutions from 1 to 5 per cent., as soon as a maximum dose of 0.005 cocain had been reached, frequently even below this point, the most serious symptoms of intoxication have taken place. This occurred even after the application of from two to five small syringefuls, and even when, by previous compression with Esmarch's bandage, the circulation was stopped as long as the narcosis lasted. Medical periodicals are full of reports of cocain intoxication, a large percentage of which have had a fatal issue. Owing to this state of things, it was impossible that local anesthesia could successfully compete with "general" narcosis.

I have, therefore, undertaken the task, in a series of trials on myself, on my assistants and the attendants of my clinic, to settle where precisely lay the limit of the efficacy of cocain. These and the experiments following, the results of which I had the honor of laying before the Medical Society of Berlin last November (1891), were all performed in such a manner that the real question, whether a given fluid be an anesthetic one or not, was decided within the intracutaneous limits of the skin. We made the punctures as parallel as possible to the surface of the skin immediately under the papillæ, until a white and slightly elevated blotch rose, resembling the sting of a gnat. The reason that the investigations of this subject, so carefully made by Liebreich and his pupils, as well as by Levin and Kanewsky, did not immediately lead to the discovery of any new facts, was that the aforesaid authors applied the fluid under examination *subcutaneously*.

We tried these experiments first on ourselves; those authors experimented chiefly on the skin or the mucous membrane of animals. During these "intracutaneous" trials of the various solutions of cocain, first appeared the surprising fact that solutions of 1–5000 in water were able, within the limits of the infiltration, to produce a complete anesthesia, so that punctures, cutting, scratching and scraping could be done absolutely without pain. Henceforth this fact may be justly considered as indisputable, after my having proved it in several hundreds of operations. After the discovery of this fact it was a natural inference that the cocain could be altogether left out of the fluid, and the same results were obtainable with pure water and solutions of salt. We found, indeed, that pure distilled water is able to produce perfectly anesthetic blotches. But here an essential difference appeared, namely, the process of injecting water into the substance of the skin itself with the formation of water blotches is painful, and that to no slight degree. Not until from a half to a minute after the injection does pure anesthesia take place, and then is quite as perfect as after the injection of cocain of from 1–5000, or in stronger solutions. The result was that distilled water, according to the meaning of Liebreich, is an "anesthesia dolorosa;" that is, the commencement of anesthesia (the paralysis of the nervous substance), is preceded by a stage of pain, a hyperesthesia of the nerves. This hyperesthesia was an obstacle to the use of pure water for operating purposes, although the refrigerating of the water to zero (Cels.), as well as the use of the ether-spray, employed in the above-mentioned way, reduced this stage of irritation to a minimum, so that I was several times enabled to perform with pure distilled water, such operations as opening furuncles or carbuncles, removal of small ganglia, etc.

Further experiments revealed that a number of substances were practically available as anesthetics without producing irritation. First, as strong a solution of common salt as 0.6 per cent. produces no anesthetic effects worth mentioning. On the contrary, it was found that a further diluted solution of common salt, namely, a 0.2 per cent. solution, by itself, especially in lower degrees of temperature, produces a perfectly prompt anesthesia in the region of the infiltration. I may here, perhaps, remark that what is true of the skin also refers to other tissues of the body; for instance to the subcutaneous layers, the muscular layers and the periosteum. The 0.2 per cent. solution of common salt produces not only anesthesia, an effect which it possesses in common with water, but the process of injection is painless. This proves that it is the infiltration itself that produces the anesthesia.

The anesthetizing fluid need not be itself anesthetic. The proportion of common salt in a solution is important, as witness the following experiment: The smallest effective dose of cocain—weaker injections caused pain—was 0.2–100, or 1–5000. This watery solution of cocain produces anesthesia and makes other injections painless. The same dose of cocain containing 0.6 per cent of common salt is painful and is not able to produce anesthesia, while the same solution wherein the amount of common salt is not greater than 0.2 per cent. again affords perfect anesthesia; indeed one gram of cocain in ten liters of a 0.2 per cent. solution of common salt is capable of producing complete anesthesia, or in other words,

I may use half a liter of my anesthetic solution before the maximum dose of 0.05 cocain is reached.

Now, when you consider that for most operations, as for example the amputation of the breast, about fifty to eighty grams of the solution are employed, you will agree with me, that there can be absolutely no question of danger of poisoning from this method of anesthesia, especially as the dose is never administered all at once, but is extended over the time occupied by the whole operation. If I may be permitted to suggest a theory to explain the incontestable fact of anesthesia by the thoroughly penetrating infiltration of "indifferent" fluids, I must not omit to say that cocain, common salt and water are not the only materials that are able in this way to produce anesthesia. You will obtain as complete a state of anesthesia by using a solution of 3 per cent. sugar or of 0.1 per cent morphia or of 3 per cent. potassic bromid, or of 1 per cent. methyl-violet, or of 2 per cent. caffein, and so on. I may mention that the efficacy of all of these materials, to which may certainly be added a great many others, will be increased by dissolving them, not in water, but in a 0.2 per cent. solution of common salt.

How is this fact to be explained? I assume that the physiologic solution of common salt of 0 6 per cent. on account of its similarity with the composition of blood serum is highly irritating when presented in excess to the sensitive nervous tissues.

Water, on the other hand, is sufficiently different with respect to the lining tissues and its normal fluid to modify the nervous substance; it first pro duces irritation, and afterwards paralysis of the nerves and anesthesia. I surmised that between these two effects, the indifferent one of the 0.6 per cent. solution of common salt and of the distilled water (differing from the composition of the fluid of the lining tissues) there must be a territory within which a weaker solution of common salt would be able to produce anesthesia without the irritation to nervous tissues resulting from the use of both stronger and weaker solutions. This border land was found in a 0.2 per cent solution of common salt in distilled water. This is the very anesthetic fluid which I employ in my operations; the addition of 1 gram of cocain to 10,000 or 5,000 grams of this solution facilitates the practical application of the solution without entailing even a shadow of danger. One gram of this solution contains only 0.0001, that is a tenth of a milligram, of cocain. The maximum dose of cocain is not reached till 500 grams of the solution have been used. It must be remembered, also, that during the operation more than half of the fluid employed runs out again or is wiped off.

In minor operations I make use of a solution of 1–5000 grams, and for dressings recommend the employment of a solution from 1–1000 grams.

I advise two "stock" solutions: One of 1 gram of cocain to a 1000 grams of water (Solution A) and the second of 2 grams of common salt to a 1000 of water (Solution B). Parts of solution A are mixed for use with five or ten times as much of fluid B. Both fluids are easily sterilized.

The cause of anesthesia by infiltration is not a simple one; several factors are at work; first the pressure of the injected fluid and the removal of the blood from the infiltrated tissues. After a properly performed injection, they appear perfectly white. That is, instead of the tissue juices the foreign mixture is incorporated in all the lymph vessels and the areolar spaces, while the blood is gradually forced into the neighboring vessels. But besides this pressure and anemia of the tissues, temperature plays a prominent part. The proof of this is very simple. All my solutions of common salt of from 1–1000 to 10,000 have the best effect at zero, Celsus.

Every edema of the skin would produce anesthesia of the parts, every swollen limb would become insensible, did not the injected fluid, which causes this pathologic edema, contain the same amount of common salt (0.6 per cent.) as the serum of the nervous fluid. If one produces an artificial edema with other fluids—with or without a little common salt—the whole region of the artificial swelling will become insensible and will enable one to operate without causing pain. This is briefly the principle of infiltration–anesthesia, which in practice has gained such a widespread application. This proceeding is, in the first place, beneficent to the patient, for whom the danger of the operation is diminished in the same degree as we are able to spare him the general narcosis.

The danger of an operation, in so far as loss of blood is concerned, scarcely exists, thanks to the advanced progress of our operative technique, for which we are indebted chiefly to our great masters of the pre-antiseptic era, and not the least to him whose immortal name has been given to this house. Lister has enabled us to make the dangers of infection depend upon our sense of duty and our carefulness; the danger of poisoning by the use of antiseptics we have banished by our efforts to reveal the laws of asepsis. What remains, then, to be done? To diminish the dangers of narcosis. What is wanted is sufficiently shown by the ever recurring recommendation of new and improved inhalation-anesthetics, such as ether, ethyl-bromid, pental, etc. Among these, local anesthesia claims the first rank.

For operations of medium importance, in which I include simple uncomplicated laparotomy without extensive adhesions, amputations of the breast, and removal of large tumors from other situations, there can now be no question of the efficacy of infiltration-anesthesia. It will be the task of the future to render this matter of proceeding, in principle unassailable, practical for surgical purposes in still more serious and extensive operations. I have so far operated upon 521 patients painlessly and without a sign of danger. Among these I might mention such operations as nephrotomy, herniotomy, removal of sequestra, amputations of the mammæ, removing glands from axilla, and laparotomies. It must never be forgotten that chloroform narcosis increases the danger of the operation. This danger is incalculable. Even the most circumstantial statistics can not tell us anything definite as to whether the danger be great or small for the individual. But how many dangerous cases of asphyxia of this or that kind, even of the deaths happening hours or days after the use of chloroform come to our knowledge, but are never in our statistics!

"General narcosis" is not the ideal method for the patient or for the physician; if I operate upon one part, why should I deprive the individual wholly of his consciousness and force him to give himself helplessly into my hands? especially if, as frequently happens, I am obliged to deprive him of consciousness not in the form of a quiet, delightful sleep, but too

often only after a struggle followed by anxiety about the eventual danger of the narcosis.

Of 537 operations, I have used chloroform in only 16 instances, and then in cases where an especial exigency demanded it as, for instance, insurmountable fear, hysteria, the personally expressed wish of the patient and failure of local anesthesia.

I now consider myself no longer justified in making use of general narcosis in my operations, unless the method of infiltration-anesthesia has been previously tried. To perform operations under chloroform or other narcosis, when they are certainly practicable with one or other form of local anesthesia, I must, from the standpoint of humanity, denounce as absolutely unjustifiable.

Königgrätzer Strasse, 47.

ARTIFICIAL HYPEREMIA IN THE TREATMENT OF DELAYED UNION.

Read before the Mahoning County Medical Society, April 9, 1894.

BY W. H. BUECHNER, M.D.

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In 1875, Nicoladoni[1] published an article upon Dumreicher's method of treating threatened pseudarthrosis. The underlying principle of the method was the production of hyperemia at the seat of fracture by means of compression above and below that point. The method demanded the use of graduated compresses, extra splints, etc., and was quite complicated. It does not seem to have come into general use, as Bruns[2] says he only knows of five cases where it was successfully employed. H. O. Thomas,[3] of Liverpool, recommends a similar method, combining with it, percussion. He endeavors to produce severe irritation at the seat of fracture by vigorous percussion—sometimes in anesthesia. After this he seeks to retain the congestion by elastic constriction above and below the part percussed.

In a paper read before the German Surgical Society in 1887, Helferich [4] proposed to employ artificial hyperemia, produced by elastic constriction, in the treatment not only of delayed union, but in that of bone cavities produced by operative procedures, and in cases of infantile paralysis, congenital dislocation of the hip, and other conditions in children where an increased growth in the length of the bone is desired. I have had no experience with this method in other cases than those of delayed union. The object of this paper is to once more bring this comparatively unknown but very efficient method before the profession, and to report my experience with it in a limited number of cases.

Helferich proves, by citing cases where an increased blood supply, caused by some pathologic condition produces a thickening of bone in adults, and a lengthening, or thickening or both in children, that hyperemia plays a prominent part in the formation of new bone. He gives warning, however, that it will not cause the production of callus but will only increase it when started by some other natural or artificial means.

To illustrate the technique of his method, Helferich takes a fracture of the humerus for an example. He first applies a flannel bandage from the fingers to a point about an inch and a half below the fracture; at the same distance (an inch and a half) above the fracture he applies a piece of rubber bandage or tubing tightly enough to retard the return of the venous blood but not to interfere with the arterial circulation. This produces a marked congestion in the parts surrounding the fracture and left uncovered by the bandages. At first the constriction is only allowed to remain a short time, but the duration of its application is rapidly increased until it is soon left on day and night. I have found its almost continuous application for a period of ten days sufficient in the cases in which it has effected a cure.

During the use of this method, the fracture should be properly immobilized. In the case of the upper extremity, this is easily accomplished by the use of splints. In fractures of the leg, a plaster-of-paris dressing is employed and the constrictor applied at its upper margin. To admit of the swelling and congestion at the desired point the plaster dressing is applied quite snugly, the part where the congestion is desired being either heavily padded with cotton or large fenestræ being cut in the dressing. In fractures of the femur the Buck extension is used, the flannel bandage and constrictor being applied as in the case of the humerus.

This method may be employed alone in cases of delayed union, but is only of use in the treatment of pseudarthrosis subsequent to some operative procedure. The time of its application after an operation depends upon the condition of the wound. As a rule it should not be applied until union of the soft parts has taken place, still small granulating spots offer no contra-indication for its use.

This method should not be used where there is any tendency to a varicose condition of the veins. Helferich says it will not produce this condition in normal vessels.

Helferich reports eight cases "in which at the time a fracture is usually healed there was very little or no callus." Six were fractures of the leg and two of the thigh. By the use of this method alone he accomplished a cure in each case in a few weeks. He also reports four cases—three of the leg and one of the forearm—in which it was employed subsequent to the nailing together of the fragments. All resulted in cures.

Six cases which were treated by this method have come under my observation. Four of these occurred in Volkmann's clinic at Halle, Germany, during my connection with that institution, and two in my own practice. Of the four hospital cases three were of the humerus and one of the radius. The fractures of the humerus were all healed, that of the radius was not benefited. One of the cases of fracture of the humerus was of particular interest in showing the utility of the method. The patient, a man about 40 years of age, had two years before sustained a compound fracture of the humerus which resulted in pseudarthrosis. Six months subsequently the ends of the fragments were resected and the bones wired together. His condition was not improved and in another six months the operation was repeated. He derived no benefit from the second operation, and at the end of a year returned to the hospital where, for the third time, the resection and wiring was done. As soon as the incision had healed the elastic constriction, as described here, was applied. In ten days a marked callus could be felt and a few weeks later he was discharged with the fracture firmly united.

A subsequent operation upon the case of fracture of the radius, mentioned above, revealed the fact

that there was a loss of substance of the radius and an interposition of muscle between the fragments. My own two cases were fractures of the upper third of the humerus. In the first, a young lady of 25, the constriction was applied four weeks after the injury. It resulted in no benefit. The case then drifted into other hands and I am unable to state the present condition of the arm. My second case was a youth of 20. Four weeks after the accident no callus could be felt. After a week of the above described treatment an abundant callus had formed and a month later he was discharged, cured.

These cases, together with those reported by Nicoladoni, Thomas and Jones,[5] where methods involving the same principle were used, indicate that in constriction and the resulting hyperemia we have a valuable adjunct to the better known methods of treatment in delayed union and pseudarthrosis.

[1] Wiener medicinische Wochenschrift, 1875, p. 81.
[2] P. Bruns, Die Lehre von den Knockenbrüchen, 1886, p. 597.
[3] The Principles of the Treatment of Fractures and Dislocations, by H. O. Thomas, London, 1886.
[4] Verhandlung der Deutschen Gesellschaft für Chirurgie, 1887, part II, p. 249.
[5] Lancet, Oct. 28, 1882.

LOCAL TREATMENT OF PSORIASIS.

Read in the Section on Dermatology at the Forty-fourth Annual Meeting of the American Medical Association.

BY R. C. LONGFELLOW, M.D.
CINCINNATI.

Psoriasis stands in the front rank of those skin diseases whose course and duration is often chronic, accompanied by frequent relapses. This disease is one that often exhausts the medical man's storehouse of remedies, as well as his ability to keep the patient satisfied with his condition and treatment prescribed. One of the obstacles to proper local treatment is the usual objection of the patient to the remedies employed, their odor, staining qualities or ointment consistence. The essayist has no lauded specifics to offer, whose perfume or color charm the patient's nose or eyes, but desires to call out discussion on the few remedies which have been of any special value. Can these few remedies, whose objectionable features have been a vexed question, be dressed in new clothes that will give a less objectionable treatment to the patient? Can we use more agreeable remedies than the ones referred to, and hope to secure any favorable results or permanent cure? While this question is of lesser importance in hospital practice, to treat this disease successfully in private patients and yet not render them obnoxious to themselves or friends, is an important question. Some patients can bear with the scales,and keep from their friends the knowledge of their infirmity, yet the remedies prescribed by their medical adviser render them an object of inquiry. The object of local treatment is to macerate the scales, produce desquamation, and thus bring to the surface the hyperemic and diseased skin. In simple cases this can be done by hot baths—plain or medicated,—gentle friction, bland oils, or ointments rubbed in daily. These applications are allowed to remain for a few days, and then the skin is washed in a hot bath, with very mild friction by a cloth or brush. If the scales and patches are not large or extensive, they will yield to simple treatment, with free use of diaphoretics, covering the patches with oiled paper, and the maceration and desquamation will be sufficient. In the simple cases, the essayist has had excellent results with the daily use of a hot bath—a toilet soap composed of green soap, 75 parts; washed sulphur, 25 parts; oil rosemary, 1 part. It lathers freely, and gives a very cleansing and refreshing bath, exerting the desired effect on the scales. One of the obstacles to satisfactory local treatment is to get the patient to remain the proper length of time in the hot bath, which is invaluable in softening and removing the scales. The vaunted springs that have been supposed to be specific in psoriasis can exert no special effect on the disease itself, but the regulation of diet, beverages, food, exercise, long baths, copious drinking of the water produces the improvement ascribed to the springs. If the patient at home would follow his physician's orders as faithfully and willingly as he does the printed rules of the springs, his reward would be greater improvement and more permanent results. No better method of removing the scales in chronic or severe cases exists than green soap thoroughly rubbed on each infected patch, and allowed to remain and dry. Such applications should be made every morning for a week; if possible, keep the patient well covered in bed during these applications, and give diaphoretics. In three to five days considerable desquamation will occur; after a week the patient should receive a hot bath, gentle friction being used; the remaining scales will be removed, exposing the hyperemic skin beneath. When the patient will not submit to going to bed,or is compelled to be at daily duties, and we can not use green soap as indicated, a 10 per cent. solution of green soap in collodion can be painted on the patches twice daily. Such a solution can be made by first rendering the green soap anhydrous, dissolving in smallest quantity of absolute alcohol, then adding the collodion. This method is more agreeable to patients, being a trifle less active than when soap alone is used, but the same result is accomplished. This method of using green soap prevents it from being rubbed off or soiling the linen, as the patient engages in his daily occupation. The collodion gives relief from itching, nor does the crust produce itching when several layers have been painted on and hardened. The irritation that green soap produces on some tender skins is overcome by the collodion. These applications are made twice daily for a week; then the loose, dry crusts are removed, the remaining ones loosening and coming off by the hot soap bath, gentle friction being used by cloth or hands. When the scales have been removed, the hyperemic skin must be treated by a remedy that will have a curative effect. Many remedies have been suggested and used without any special degree of satisfaction. During the few minutes allotted to this subject, only the three remedies will be mentioned which have been of real service and most used at the present time namely, pix liquida, chrysarobin, and acidum pyrogallicum. These are disagreeable agents in the matter of odor, staining qualities and ointment consistence when prescribed in the usual way. In some patients the use of tar produces a febrile condition, the skin is irritated and looks as though a dermatitis would supervene. The method of using tar which is least objectionable the essayist has found, is to make a 15 per cent. solution in collodion. Each patch is painted every other day until four or five applications have been made, then the layers of collodion being removed, the patient is given a hot bath, after which the tar is painted on as before. The odor of tar is greatly re-

duced in the collodion, and has the advantage over other methods in not being rubbed off or soiling the linen, yet loses none of its therapeutic effects. The irritation that tar sometimes produces is overcome by the local anesthetic effect of the collodion. Chrysarobin should be applied with caution and not allowed to extend beyond the area of the infected patch. It stains both skin and linen a yellowish color; frequently, even with caution, it will produce considerable irritation, or may have to be suspended. Applied once daily with care, the patches desquamate, the skin becomes of normal thickness and color, contrasting with the brownish color at the limit of the former patch. The method of Fox, to use chrysarobin combined with collodion, is the safest and least objectionable of the present modes of application. Infected patches should be painted once daily, or every two days, care being taken to limit its application only to the patch, as even when used most carefully troublesome irritation occurs in not a few cases. These applications, made for a week, should always be followed by a prolonged hot soap bath, while the general baths of non-infected parts should not be neglected. Pyrogallic acid, less active than chrysarobin, does not produce as much irritation of the skin as the latter remedy. In psoriasis of the head and face, pyrogallic acid is much better adapted for local treatment than chrysarobin, but if allowed to come in contact with the hair will stain. Too extensive or careless application of this agent has caused it to be absorbed, resulting in strangury, vertigo and vomiting. The safest and least objectionable of local applications to the head and face are salicylic acid in plaster or collodion, resorcin or aristol in ointment of roses.

DISCUSSION.

DR. OHMANN-DUMESNIL remarked that treatment of psoriasis of the scalp, especially in women, can not be effectuated by the means recommended by the speaker, and therefore he uses oil of cajeput, which he finds very useful and of easy application.

DR. BULKLEY recommended the use of white precipitate and bismuth in form of an ointment. He does not advise to wash the scalp too often, but he anoints it twice a day with this ointment, in the following formula:

℞. White precipit., Bismuth sub. carb., aa ʒss.
Acid carbolic, gtts. x.
Unguent. ammon. roset., ʒij.
M. F. Unguent.

He believes, however, that 25 per cent. of the patients can be better cured by internal and hygienic means than with local treatment.

DR. FRANK is satisfied with the use of chrysarobin and pyrogallic acid, and with a salve consisting of ichthyol and vaselin.

PHYSIOTHERAPY FIRST: NATURE'S MEDICAMENTS BEFORE DRUG REMEDIES; PARTICULARLY RELATING TO HYDROTHERAPY.

Read at the last Semi-annual Meeting, in Ottawa, of the Rideau and Bathurst Medical Association.

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All through the records of the history of medicine—in the early Assyrian and Egyptian period, five or six thousand years ago, in the time of Æsculapius and of Hippocrates and down, as we find in modern uncivilized tribes, we have clear evidence that in the first or early steps in the science of medicine the practice of the art consisted for the most part in the employment of magical incantations, the laying on of hands, etc., and was apparently somewhat of the nature of modern hypnotism, acting through the mind, as if the chief reliance in the healing of disease was upon the natural living forces within the body. We are here reminded of the old saying that "God made man upright, but he hath sought out many inventions." Although Æsculapius in his practice, we are told, enjoined first of all a hygienic regimen, attention to the diet, strict temperance and absolute cleanliness by frequent ablutions, and although the temples that were afterwards erected in his honor were built in the healthiest localities and the patients in them treated upon like hygienic principles, including rest and pleasing impressions, yet so far as we know it was Hippocrates who, practicing in a similar way, first drew special attention to the inherent natural curative force within the body, which he termed phusis (φυσις) nature, the *vis medicatrix naturæ*, of late Roman writers; while he also recognized subordinate forces which he termed dunamics (δυναγις), relating more particularly to the various organs of the body. Moreover, in practice this father of medicine allowed these forces to pursue unmolested and uninterrupted their benign course; and he was in practice it appears remarkably successful. Coming down through the obscurity of the Dark Ages, to two or three centuries ago, we find the discerning Van Helmont advancing the theory of a more specific healing force or power within the body, different from that belonging to inanimate matter, and which he personified as the "Archæus," or "Grand Regulator," a sentient principle seemingly distinct from the corporeal frame, whose throne was the stomach; Wepfer designating a like power as the "president of the nervous system;" and the bold Stahl attributing such an influence "directly and entirely to the rational soul, diffused over the whole body." And while we still continue to pour in drug remedies as our sheet anchor in the treatment of disease, the schools especially wave before us, perhaps not now so much as a few years ago, the endless and ever increasing drug formulæ of the Pharmacopœia as the Alpha and Omega of resource in therapeutics, leaving us to find out for ourselves in practice, through years of most bitter, most destructive experience, the futility and danger of most drug remedies.

A Metchnikoff now rises up and displays before our wondering eyes, as it were, the *vis medicatrix naturæ* actually personified—certain living cells in actual combat with disease germs; while other investigators teach us that there is generated in the body and found in the blood serum, itself, a germicide more powerful than corrosive sublimate.

It is not my intention to make a tirade against drug remedies. Some of them are of undoubted value in certain diseases, although as Prof. Erb, of Heidelberg, says, of "chemical or internal remedies:" "Here we enter upon a very obscure field which needs thorough cultivation. We know almost nothing of it; the little which therapeutic experience has taught us is neither securely established nor in any way scientifically or intelligibly founded." But I would like to deliver a vigorous tirade against the practice of the text-book makers and of the schools giving these remedies first place, usually, instead of the last, in the Materia Medica.

Many years ago I suggested at more than one meet-

ing of the Canadian Medical Association that the profession in Canada take the initiative and appoint a committee with the view of inducing the profession elsewhere to join and cut out about nine-tenths of the Pharmacopœia—and to separate the few grains of gold in it from the enormous amount of what is practically dross.

I will just mention here a few points relative to some of the dangers which may arise from drug remedies. On the 13th of the present month the *British Medical Journal* gives the report of "An inquiry regarding the importance of ill effects following the use of antipyrin, antifebrin and phenacetin, by the Therapeutic Committee of the British Medical Association." I can only give two or three lines of the ten to eleven close columns of the report, as follows: "The list of ill effects noted with antifebrin is not only a very formidable one in itself, but it loses none of this character when we consider the frequency of their occurrence." True it is that, as regards the freedom from ill effects of the three drugs, antifebrin is third and last; phenacetin being first.

We must admit, furthermore, that ill effects from the administration of almost any drug may be considerable, even serious, and not be manifested even on close observation for a long period of time; just as we know is the case with certain kinds of food consumed. And when we think for a moment of the complex and intricate nature of the physiologic and vital processes going on within the human organism, or of the susceptible nature of the digestive ferments, for example, we can readily understand, theoretically, that the introduction into the body in any way of but a mere trace of some chemical product, even one regarded as mild in its action, may interfere with or disturb, little or much, the processes of nutrition, as well as other functions. The same may be said in respect to disturbing in like manner the natural healing processes,—to interfering with the formation of nature's germicide, for example, or with the vigorous action of the army of phagocytes. For do as we will or may, nature ever reserves for herself the maximum of power in the direction of the processes of healing. In the words of a paper by Dr. Von Dunhoff, in the *New York Medical Journal*, of a few months ago: "I submit that, however efficient as germicides certain chemical agencies may prove to be in the laboratory, the same impracticability attends them in their adaptation to clinical issues, and renders the effect of their use here either *nil* or mischievous, as is the case with respect to the effects of many of the so-called chemical preparations, presumably prepared with the nicest precision as supplemented ingesta, intended for the correction of certain qualitatively defective conditions of the blood and tissues; and unless the inherent residual *vis resistentiæ naturalis* vouchsafes recovery, no man has yet attained the means of compelling such an issue artificially.

Experiments have shown that mice under the influence of chloral contract infections more readily than mice not under such influence; the chloral probably depressing or embarrassing the action of the phagocytes.

The millionth part of a drop of blood from a rabbit affected with anthrax may communicate this malignant disease to a healthy rabbit. Possibly a much smaller quantity than the millionth part of a drop, say the four-millionth part, would not communicate the disease to the animal when it is in a natural vigorous physical condition. But who can measure the infinitesimal quantity of chloral for example or other drug which, having been first given to the healthy animal, might so depress the phagocytes in its blood as to enable the bacilli of the disease in the four-millionth part of a drop of the infected blood to come off conqueror, establish their colonies and the disease and destroy the life of the rabbit? Or who could weigh the mere trace of some of the depressing or soothing drug remedies commonly given in infectious pneumonia, or in the earlier or sthenic stage of some of the infectious fevers, which might possibly so interfere with the formation or action of the natural germicides in the body of the patient as to lessen the chances of recovery, or possibly to favor auto-infection?

Nor must we, moreover, meddle too far with benign nature even with our more natural remedies. No physician dare interfere with compensating hypertrophy of the heart in valvular disease. So in certain cases of epilepsy. In the works of Dr. Lyman, Professor of the Principles and Practice of Medicine, in the Rush Medical College, Chicago, in a recent address delivered before the Michigan State Medical Society on the "Limitations of Therapeutics:" "Though the paroxysms of the disease may have been suppressed and the patient apparently cured, or if not absolutely cured, greatly relieved for a long period of time, the patient will sometimes tell you that after all he would prefer not to continue treatment any longer. Not because dissatisfied with your methods or measures, but because he felt so much better when the disease was allowed to run its natural course, and because an explosion or convulsion at certain stated intervals seemed to give absolute relief, showing that the wisest and best therapeutic methods (or what appears to us to be the wisest and best) may nevertheless absolutely fail in giving to the patient that degree of comfort and satisfaction which we desire, but which nature knew how to bestow." So that it is sometimes better to bear the ills that we have than fly to others we know not of. True, if the cause or causes of the diseased state which gives rise to these explosive convulsions as a means of relief were first removed instead of the mere symptoms being treated, the result would be quite different.

Permit me, then, to mention in this connection, as a reminder, and we all need frequent reminders, the fact that, in the treatment of disease, there are two most important points to bear in mind: 1, to ascertain, if possible, by the most careful and thorough examination the cause or causes of the diseased condition or symptoms we are called upon to treat; and 2, to remove the cause or causes or prevent the recurrence of the same. Then, in very many cases, if we provide the ordinary essentials of health and life—pure air, water and sunlight, securing the utilization, through the respiratory organs of abundance of oxygen, with suitable food, clothing and rest, or it may be exercise, probably partial passive exercise, as in passive movements by another person or in massage, with the means of absolute cleanliness—abundance of water, dirt being so common a cause of disease,—then, usually, benign nature "will do the rest." Hence a very much larger proportion of the time given to the study of medicine should be devoted to the study of pathologic conditions and especially to the causes of these conditions.

The application of these natural remedies, the essentials of life, as above named, may be termed natural therapeutics. Or, if I may be permitted to coin from the Greek a new term, for I have never observed it in print, a term more in accordance with medical nomenclature than the words hygienic treatment, commonly used, I would suggest the term physiotherapy. Let us notice more in detail, yet briefly, a few of these therapeutic remedies.

Pure Air and Sunlight are recognized by everybody as being most valuable remedies and restoratives, but they are not nearly so often prescribed and administered therapeutically to patients as they might and should be, and before drugs. Were they costly remedies and not free to all they would perhaps be more commonly prescribed. Besides, many people do not know how to breathe in, and get the full benefit of pure fresh air with its life-giving oxygen. They make only partial use of their respiratory organs. I have tried the experiment of inducing patients who suffered from weak, inactive lungs and consequent general debility, to draw in more fresh cool air at each inspiration, to "eat the air," as the Hindoos have it, and from this prescription alone great improvement has followed.

The Diet being a common cause of bodily derangement and disease, we have in modifications of it and in feeding or fasting, a potent remedy. While many patients need feeding with a more nutritious or suitable, if not more abundant diet, many on the other hand require to let the digestive, nutrient and excretory organs rest by remaining in bed for a time and eating almost nothing—fasting. Regulation of the diet in these various ways has alone in my hands proved to be a very efficacious remedy.

A Complete Rest for the whole organism, in this rushing age, with feeding or fasting as indicated, probably a few days of fasting and many more of feeding, is not infrequently a prescription strongly indicated and much needed, and alone is often sufficient to restore health. And the "rest cure," as it is called, is becoming, as we know, a somewhat common practice. It is to be hoped it will not become too fashionable.

Mental Influence: Before noticing passive exercises and hydrotherapy, I may just refer to mental influence as a remedy. To this may be attributed the "miraculous cures," "we read about" occasionally; "faith cures" and the like. What physician has not witnessed the effects of mental influence exercised through the power of hope, in many cases of disease? Or of the power of a strong will in overcoming disease? I will allude to but one practical and direct example of the power of the mind over the body; that of defecation in constipation from a sluggish state of the lower bowel. Persistent concentration of the will upon the parts accompanied, not by straining but simply by the desire of action, will alone overcome many cases of habitual constipation. Massage will usually aid in producing and hastening the desired action.

Mention may be made, too, as associated with mental influence, of hypnotism with suggestion; not yet well understood nor generally recognized as a remedy.

Electricity is apparently destined to become an important remedy, and may also be regarded as a natural one, in the treatment of disease; especially as produced by friction or induction, usually termed static electricity. With its small volume and high degree of force in this form it has already produced highly satisfactory results. The nature of its action not being yet well understood, its use is necessarily empirical and it is a very bonanza for quacks. True it is that many of our most valuable remedies have been brought into use in this way. It has not fallen to my lot to have had much experience with electricity. Indeed with the other remedies at command I have never yet experienced the need of it; the electrical effects of massage usually sufficing.

In Kinesitherapy, passive local movements or exercises, as in massage and the manual or mechanical movements commonly termed Swedish, we have a most potent remedy in a large number of diseases. It is a remedy the action of which we can readily understand, regulate and control. While the practice of massage—kneading, rubbing, percussing or tapping, is rapidly coming into general use, the so-called Swedish movements, which are of equal if not greater value, seem not to be so generally practiced.

The effect of these passive exercises of the muscular tissue, by either massage or the more natural movements, while readily comprehended, are sometimes almost phenomenal. Diseased conditions are removed by substituting natural healthy action. They aid the natural forces in eliminating morbid or poisonous accumulations from the system. In all forms of dyspepsia, in dilatation of the stomach, when the muscular tissue is weak and inactive, in helpless cases of rheumatoid arthritis, even of several years standing, in curvatures of the spine and other deformities, and in paralysis of motion, no other treatment is so applicable and successful; when combined, I need hardly add, with other hygienic remedies, especially with abundance of atmospheric oxygen and proper food, and in rheumatism with the warm bath.

In relation to kinesitherapy, I will only add that, in all cases of muscular asymmetry, with the accompanying want of uniformity in action and vigor, a condition which is the forerunner or cause of many diseased conditions, especially as found in gynecologic practice, and in which ordinary exercise is not admissible, no other treatment meets the requirements so completely. As Dr. Kellogg, of the Battle Creek, Mich., Sanitarium, says in "Modern Medicine and Bacteriological World," in his "experience with several thousand cases, lack of muscular development is the cause of a great share of uterine and ovarian displacements," and a "substantial cure can not be effected by any other means." In the majority of cases the patients can not take general "exercise" themselves, and these partial exercises supply the want.

We now come to the last therapeutic agent to which I shall draw attention, and which, indeed, I regard as the most important and valuable of all—the common element, water, in its various forms of application.

When we consider the broad fact that many diseases, functional and organic, if indeed there be any distinction, are caused more or less directly by dirt, dirt outside the body or within it, we can at once comprehend the value of water as a therapeutic remedy, and in its simplest form of application—water in which to wash and be clean. I need hardly refer to its value, as confirmed by the highest authorities, in washing out, with copious water or salt and water

injections, the intestines in cases of cholera. I believe it would have an equally good effect in typhoid fever. Nor need I refer to its value when copiously swallowed in washing out the entire internal structure of the human body, to the minutest recesses among the tissues, as when the organism has become loaded with the *débris*—the dirt, practically—of the ordinary functions of life, which has accumulated in the fluids and tissues from want of proper hygienic care or habits. We know that it is now the opinion of many physicians that it is to the copious water drinking in most cases, much more than to any mineral ingredients in the water, that many of the popular "springs" owe their popularity. Persons suffering from excess of waste matters, and the poisonous substances arising from the decomposition of these, in the tissues and fluids of the body, impure blood, receive at the springs a complete wash-out—a flushing—a succession of internal baths; they are simply washed and made clean.

But water, it need hardly be said, has as a medicament a much broader application than is indicated in any of these pathologic conditions. Remarkable physiologic and therapeutic effects can be produced by the application of water in various ways and, on the whole, more safely and naturally than with drugs.

The only work in the English language which is not tainted with quackery, so far as I know, if we except the valuable treatise of Winternitz in Ziemssen's "Hand-book of Therapeutics," now practically out of print, is that on the "Uses of Water in Modern Medicine," by Simon Baruch, a physician holding many high positions in New York, which was published a year or so ago by Geo. S. Davis, of Detroit. If any of you are not in possession of this practical little work, I take the liberty of saying you should get it. It consists of two volumes of the "Physician's Leisure Library" series, and is very inexpensive.

Dr. Baruch makes this happy distinction between hydrotherapy and hydropathy: "The former accepting water as one important remedial agent; the latter regarding it as a universal remedy." To my mind, it is just about as Dr. Baruch further says: "While I emphasize my belief in all those drugs whose effects have been positively demonstrated in the laboratory and at the bedside, I espouse water as perhaps the most potent of all remedial measures; and upon the historical, physiological and clinical grounds succinctly set forth in the following pages," —*i. e.*, of his book. Again, he continues: "The history of water as a therapeutic agent is not only a most interesting chapter, but it affords the clearest demonstration of the instability of therapeutic propositions, and the manner in which prevailing ideas influence them. Although the literature of the subject is the most extensive published with regard to any remedy, recent works on therapeutics treat it with a decidedly stepmotherly regard; they dismiss it in a few beggarly lines, preferring to devote their columns to essays upon the action of remedies whose actual clinical value is, in most instances at least, problematical. The history of water teaches clearly that no other remedy has so creditably passed through vicissitudes of depression; and that despite professional and lay prejudice, it stands to-day unscathed and rendered secure against assault by the panoply obtained from physiologic and bedside results."

A few words here on the history of hydrotherapy will be both interesting and profitable. Hippocrates laid down rules for the treatment of disease by water, which even at this day are practiced by both physicians and quacks. Two and a half centuries later, Asclepiades, though it appears not possessed of much real medical knowledge, by his great natural ability and discretion attained eminence in Rome as a practitioner, depending almost entirely for his success on a judicious diet, massage and baths; by means of which he performed "miraculous cures." So warm an advocate was he of the water treatment that he was dubbed "Psychrolutus." Through Asclepiades hydrotherapy was popularized in Rome. He formed the school whence sprang Themison, Celsus and other eminent physicians. A pupil of his, Antonius Musa, restored the Emperor Augustus to health by the vigorous use of cold water; and he had Horace too for a patient. So grateful was the Emperor that he bestowed upon him and the whole medical profession the privilege of citizenship, and had a statue erected to Musa next to that of Æsculapius. Celsus, the "Latinorum Hippocrates," prescribed water freely; so did also Aurelianus, who originated the wet sponge abdominal compress for hypochondriacs. Galen was an advocate of cold water baths and was the first, it appears, to advise cold applications to the head while the body was immersed in warm water. We know but little relating to the history or practice of medicine in the many dark centuries which followed the time of Galen. Oribasius of the fourth century, Ætius of the fifth, Trallianus of the sixth, and Paulus Ægineta of the seventh, the most noted of their time, were all zealous Galenists and followers of his practice. Ægineta was an enthusiastic advocate of the use of water, and was the first to advise the cold douche in sunstroke. All the more eminent physicians of the next few centuries, during the more dense barbarism of Europe—Serapion of Damascus, Rhazes of Irak, Avicenna of Bochara, and Avenzoar of Seville, who, it is said, lived to the age of 135, appear also to have been disciples of Galen, following in his line of practice. Chemistry made considerable progress during that period, and there were many additions to pharmacy, and possibly but little water was used in any way until the dawn of the seventeenth century. The Hippocrates of England, Sydenham, holding the more enlightened view that diseased action consists essentially in a natural effort of the system to remove morbid or noxious products, his practice was, like that of Hippocrates, to assist nature. I can not learn that he relied much upon hydrotherapy, but a few years after his death, about the close of the seventeenth century, Sir John Floyer, physician, of Litchfield, England, published a "History of Cool Bathing, Ancient and Modern," a book which created an epoch in hydrotherapy, passed through six editions within a few years, and many years later was translated into German. Blair and Cheyne, English physicians of the highest standing, recognized hydrotherapy in their practice. The illustrious German physician, pathologist and clinical teacher, Hoffmann, was the first to distinctly recognize the influence of water upon the "tone" of the bodily tissues. After his time, during the eighteenth century, the use of water in medical practice became much more popular in Germany. The surgeon of Frederick the Great, Theden, was the first to use it in fevers, smallpox and rheumatism. He improved the shower bath and warmly advocated its use.

About this time, Hahn and his son and Oertel helped much to establish the principles of modern hydrotherapy in Germany, in both acute and chronic diseases. The work of the illustrious Currie, published in 1797, first placed hydrotherapy on a scientific basis, it appears. It advocated the use of water in gout and paralysis as well as fevers, and was translated into German and other languages. Although the practice of hydrotherapy was more popular in Germany than in England at this time, it is contended that it was by reason of translations of English writers, as Floyer and Currie. The practice of the latter was adopted in the Vienna hospitals. To mention the wise philosophic Hufeland as an enthusiastic and yet judicious advocate of hydrotherapy, as Baruch says, is to "give the imprint of true medical wisdom to it, and to indicate its wide adoption among the profession. He offered a prize for the best treatise on the action of cold water in fevers, determined by scientific thermometrical study." A Vienna professor was the successful competitor, whose treatise was published in 1823.

Notwithstanding all this, and more, hydrotherapy did not become generally popular until the time of the German farmer, Vincentz Priessnitz, who at his home in Grafenberg, Silesia, first received patients, enlarging his house as occasion required. In 1840 he had treated over 1,500 persons from various parts of the world, and twelve years later had amassed an immense fortune. "His success was brilliant because he was a careful observer, a good judge of human nature, and his mechanical skill enabled him to invent various technical modifications of the water treatment, many of which have been adopted by the profession and are still in use. A copious literature sprang up in all parts of the world, and many institutions were modeled after his. The government built roads to facilitate access to his establishment; monuments and fountains were erected to his memory. Physicians from all countries, who had been attracted to the mountain home, became converts to and missionaries of his practice." A few years later, Scoutitten, a French physician, after studying hydrotherapy in Germany, reported that, "the numerous permanent cures it has wrought recommend it," and it "lies in the interest of humanity and medical science that its practice in Paris take place under the eyes of able physicians." Magendie aided in the propagation of hydrotherapy by physiologic demonstrations. Fleury introduced douches, and explained his clinical successes on physiologic principles. Fever treatment as now practiced was initiated by Brand, who in 1861 published his startling results from immersions and compresses with water at 54 degrees to 68 degrees F. The practice was soon introduced into England by Wilson Fox.

Respecting the practice of hydrotherapy, as Niemeyer in his work on practice says: "A series of cases are on record in which complete and perfect cures have been obtained" by it,"after all other methods of treatment had been applied in vain." Dujardin-Beaumetz (lectures at l'Hôpital Cochin, 1887) said: "The benefits we obtain from cold water in the cure of disease arise from its physiologic effect upon the circulation, the nervous system, the nutrition, and from its revulsive and heat lowering influence." Prof. Peter, of Paris, in his preface to the great clinical work on hydrotherapy of Duval, writes: "Hydrotherapy suffices in most cases of disease; added to other treatment, it is a most powerful auxiliary." Prof. Erb, in his classical contribution to Ziemssen's Cyclopædia, writes: "To the most important and most active agents in the therapeutics of our field (nervous diseases) belong cool and cold baths, viz., the application of cold water in the most varied forms; that which is usually termed cold water treatment. Having been in recent times practiced more rationally and studied more exactly, it has attained remarkable prominence. Its results in all possible forms of chronic nervous diseases are extraordinarily favorable. If we add to this the heightened skin and muscular action induced by various methods of bathing, the influence of diet, etc., it becomes evident that we possess few remedies which produce an equally powerful effect upon the nervous system." Semmola, Professor of Therapeutics in Naples University (lectures, 1890), says: "Hydrotherapy stimulates cutaneous activity, and with it all functions of tissue change and organic purification, so that often real marvels of restoration in severe and desperate cases are accomplished. Unfortunately, these remarkable results are more rare to-day than they were in the time of Priessnitz, of which I was myself a witness." In all cases of retardation of tissue-metamorphosis, he says: "Hydrotherapy presents a truly rational treatment, and therefore unfailing effects, unless the local processes have reached incurable limits."

I could give many pages of such quotations from our highest authorities as to the value of water in the treatment of disease, but the above will suffice.

About a year ago, Ravighi, at a medical congress in Rome, read a paper respecting the effects upon the blood cells of the application of water, as shown by experiments he had made on men and rabbits. In March last, Prof. W. Winternitz, of Vienna, published (in *Cent. fur Klin. Med.*) a contribution on the same subject. Since that time, investigations by Dr. W. S. Thayer, of the Johns Hopkins Hospital, and more recently still, studies at the physiological laboratory at the Battle Creek Sanitarium, have verified the results of the other investigations. In "Modern Medicine" for December is a translation by Dr. J. H. Kellogg of another article, which had just been published by Winternitz (*Blat. fur Klin. Hydrother.*) on the same subject. All these show clearly that the application of water, apparently hot or cold, to the surface of the body produces an increase, sometimes large, in the red corpuscles, leucocytes and hemoglobin in the circulating blood. Winternitz reports: "The maximum increase of red blood corpuscles observed in fifty-six persons examined, was 1,860,000 per cubic mm. The maximum increase of leucocytes was to the extent of three times the ordinary number. The maximum amount of hemoglobin observed was 14 per cent."

At the late Pan-American Medical Congress in Washington, Dr. Baruch, opening the discussion relating to the value of cold water in asthenia, mentioned the astonishing effects of the cold douche. It rouses the circulation and "sets the wheels of life again in motion" in the very climax of this condition—with "thready pulse, shallow breathing, dull eye, picking at bed-clothes, subsultus, involuntary defecation,"— (*Therap. Gaz.*, January, 1894) in any febrile condition, scarlet fever, etc., which no known drug remedy, not even alcohol, will produce.

I will but mention, what some of you may not have read of (in JOURNAL OF AMERICAN MEDICAL ASSOCIA-

TION and *New York Medical Journal*); the Schott method of treating chronic heart disease by warm baths aided by muscular exercises. During the baths there is a reduced frequency of the pulse, with increased volume and strength and less irregularity. This effect is lasting, and a gradual amelioration of symptoms follows persistent treatment. It is said this treatment is applicable to a greater variety of cases than is Oertel's method. Schott medicates the baths by salines or carbonic acid; but their value is probably almost solely from the regulation of the circulation by the temperature of the baths. This I believe from personal experience.

Permit me in conclusion to say a very few words in respect to my own limited experience in the practice of hydrotherapy. In the latter part of my teens, having been a pretty hard working student, I was troubled a good deal with indigestion and a consequent want of good general health and vigor. In opposition to the wishes of my father, who was bitterly opposed to any semblance of quackery, and after having taken a good deal of medicine from the best physicians in the country, under pretence of visiting friends during holidays I placed myself under the care of a Mr. Brown, who had during the time of Priessnitz a popularity which it appears extended to the uttermost parts of the earth; and started a hydropathic establishment, or "Water Cure," in Newmarket, Ontario, near my home. Brown had but little medical knowledge and his failures probably outweighed his successes; but the "cold wet pack" or "sheet bath" and other forms of water application which he prescribed benefited me, and were the starting point of my faith in the value of water in literally washing away disease. During after years of laborious country practice, and many of them, although the want of available correct literature on the subject was a great drawback to me, I frequently availed myself of water as a remedy. Especially in copious draughts of it as a most certain and efficient diuretic and diaphoretic, directly unloading the cutaneous tissues and urinary organs, and through them in a large measure the entire body, of accumulated obstructing matters; as hot and cold compresses in local pathologic disturbances; as a tonic in the form of a cold sponge or shower bath; as a most soothing regulator of the entire organism in the form of a warm bath; and in other ways. Of one thing I feel certain; I never in my practice knew the free use of water to do any harm. This, neither you, I think, nor I can say of drug remedies. When weary and exhausted from riding all day and perhaps all night in the saddle or a two-wheeled chaise nothing, be assured, will rest and recuperate, soothe the irritated nerves and equalize the disturbed circulation like a warm bath, at a temperature of 93 or 94 degrees to 97 degrees F. Having spent many an hour reading in such a bath, I speak from personal experience. And now, largely as a consequence, when not very far from being 60 years "young," I feel better, more vigorous, youthful and clear headed than when at half the age. The warm bath has a high reputation, too, for warding off the effects of age. There is no other remedy so refreshing and invigorating. Thus Minerva is said to have imparted renewed vigor to the wearied limbs of Hercules. And over two thousand years ago, Hector's wife prepared warm baths that "returning from the fight," at Troy, "Hector might be refreshed."

. . . "Not yet the fatal news had spread
To fair Andromache of Hector dead;

. . . . . .

"Her fair-haired handmaids heat the brazen urn
The bath preparing for her lord's return."

SOME THINGS THAT SHOULD NOT BE FORGOTTEN BY THE GENERAL PRACTITIONER.

BY B. C. KEISTER, M.D.
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In a previous communication under this heading, I endeavored to bring out a few salient points of interest to the general practitioner. It is my present purpose to emphasize a few minor points that often escape the notice, but which should have the due consideration of the entire medical profession.

The first item of general interest that presents itself to my mind, is the patent medicine fake. It is passing strange that this great evil should be allowed to assume such wonderful proportions in this advanced age of civilization and superior education. It is no less strange that laws have not been enacted to abolish an evil whose deleterious effects upon the constitutions of its victims are so apparent to every observing mind. How preposterous the idea seems for an intelligent being to take into his stomach a mass of things that he knows nothing *under heaven* about, except through the flattering, false description that he reads in a newspaper, whose editor knows no more about it than he does about the function of the vermiform appendix. This evil is gradually assuming greater proportions every year, and I must frankly say it is a *burning disgrace* to our boasted civilization, as well as to the medical profession, that such is the case. It is *high* time for us to act in the matter. As conservators of the public health, and well-wishers of our fellow-mortals it is our duty to take the initiatory steps toward stamping out this great destroyer of human health and impoverisher of the sick poor. It is no strange sight in these times of financial depression, to go into a well-to-do household and see in some secluded corner or on the pantry shelf, a dozen or more empty bottles that bear the obnoxious titles or trade-marks of as many varieties of nostrums, such as "Dr. King's New Discovery for Consumption," "Chamberlain's Cough Remedy," "New Great South American Kidney Cure"—that cures all forms of kidney disease in six hours. These are but historic guideposts to the physician as he enters an adjoining room and there beholds the victim of these empty nostrum bottles, lying on his sick bed nigh unto death's door. During the brief intervals of coughing and attacks of short breathing, the dying man begins his tale of woe, by telling of his neglected bad cold, and then of the newspaper accounts of "Chamberlain's Cough Remedy" that his neighbor Brown told him to get for his cough; not getting any better, he tries several bottles of "Dr. King's New Discovery for Coughs and Consumption." He next tells about his first night sweats, which occurred some weeks previous, and of their weakening effects. After trying the last named medicine some time and finding no relief, he decides that his kidneys are diseased, as his urine has become more scant and his night sweats more profuse; hence he tries several bottles of the "New South American Kidney Cure" which his druggist recommended to him through his oldest son, John,

and sent him several papers containing a full description of its magical effects in curing all kidney diseases in the short space of six hours. Ere he could finish his tale of woe, the dark shadows began to hover about his placid brow, and while his trembling lips were growing pallid, the curtain was drawn and death claimed the old man as a victim of patent medicines. This is but an illustration of what, too often, occurs under the observation of the general practitioner. Now let every physician who feels any pride in his profession, and who has a spark of genuine sympathy for the well-being of his fellow-creatures, resolve to put forth his best effort in his own community to get laws enacted, by our Legislatures, by which the human family may be spared the penalty of this popular (?) curse. Why not follow the example set by the State of Iowa? This State passed an Act recently, requiring all firms that sell patent medicines in that State to have the formula plainly printed and labeled on each bottle that is offered for sale, under a heavy penalty, in case of violation. This will enable the physician to judge as to the merits or demerits of the contents of the bottle. And, inasmuch as these preparations have no merits, it is reasonable to suppose their vendors will not submit them to this test, hence will stop their sale in the territory that requires these restrictions.

One of the fertile sources of this evil, as it now exists, is the counter-prescribing druggist, whose desire for "filthy lucre" crowds out all other considerations. It is no uncommon occurrence, in this fast age, for a druggist to assume the role of doctor, and undertake to treat private cases who are too ignorant and penurious to employ a regular physician, and as the *wise* (?) druggist indicates a willingness to undertake all such cases, the physician is thus deprived of his licensed privilege. The counter-prescribing druggist will also show his want of respect for the medical profession by advertising his "cure-alls," such as *his* "chill pills" (for malaria), "dinner pills for the digestion," etc.

Now, what shall we, as regular practitioners of medicine, do, in remedying such discrepancies? After mature and deliberate consideration, I have come to the conclusion, that the best and only way out of these embarrassing difficulties, is simply and plainly for every general practitioner who feels so disposed, to fill his own prescriptions at his office. This may seem to some a very ludicrous and selfish idea; but to me, it seems the only alternative by which to keep our noble profession independent and free from the blighting intrigues and contaminating influences that are making such rapid inroads upon her domain. I do not mean to reflect upon the true, gentlemanly, professional druggist, who would disdain to stoop to such low and unprofessional acts. Hence, what I have said applies only to the counter-prescribing and patent medicine-advertising druggists, and it is to the detriment of both professions that there is such a large percentage of this latter class of druggists. Like unto our own profession, there are many "crooks" and unprofessional men, who should be shown up to the profession in their true colors.

And just here let me call to mind the terrible fact that we have men in our profession who, from lack of medical knowledge, have allowed themselves to get into the habit of prescribing and indorsing patent medicines. In talking with a druggist on the humbuggery and imposition practiced on the ignorant public in the sale of patent medicines, I was astounded when he told me that several of my brother physicians had been prescribing some of the patent medicines he kept in stock. Just think of a physician prescribing for a sick person something that he knows nothing about!

While we are looking so carefully after the health and interests of the public we must not lose sight of our own peculiar interests, but ever be watchful of the malignant diseases, like the eating cancers, that are constantly threatening the vitals of our profession. Whenever a physician becomes too negligent and careless to prescribe well-known and tried remedies for the relief of suffering humanity, he then becomes a *nonentity* to the profession.

If you will pardon the digression, I will give you the benefit of a ridiculous yet practical, anecdote a brother practitioner related to me about his ludicrous experiment with a patient who was very fond of taking patent medicines. The Doctor stated that his patient was one of those chronic grumbling fellows who had lost faith in doctors, and as a last resort made up his mind to try patent medicines, and asked the Doctor if he knew of any *special one* that *might* suit his case. The Doctor told him to return to his office in the course of two or three days, when he would have something that would suit his case precisely. He then secured half a dozen large bottles and, after having them filled with *stale horse urine*, went to a drugstore and in a sly way secured a lot of old surplus patent medicine labels. He took the labels to his office and pasted them on the six bottles of *stale horse urine*, carefully adjusting the patent medicine wrapper, containing a glowing description of the magical effects of the medicine, etc., and set them aside for his patient. The following morning the patient called, and asked the Doctor about the expected medicine. He was given one of the bottles and told to take the medicine in tablespoonful doses three times daily, before meals (according to the printed directions on the bottle). The patient returned after taking the first bottle and told the Doctor that he thought he had struck the right medicine at last, adding that he was improving very fast, and his appetite was better than it had been for the previous six months. Suffice it to say, he paid for the six bottles and ordered a half dozen more. The Doctor informed me that his patient got entirely well under his novel treatment and paid him ten dollars for the dozen bottles of *stale horse urine*.

This is a practical illustration of the patent medicine fake of the present day.

A physician can fill his own prescriptions at his office very effectually and successfully to both himself and patients, and this will prove a means of self-defense in our warfare against counter-prescribing druggists and the patent medicine fake. Go back with me to the days of Galen, when drugstores were unheard of, and patent medicines were not dreamed of; or, if you please, to the more recent time of McDowell, when it is said that doctors made as much clear money from the sale of their medicines at their offices, as the general practitioner makes at the present day from writing prescriptions. There were but few prescription drugstores then, and these were confined to the larger cities, hence the doctors ordered their medicines in large quantities from the cities.

And just here, let me say, there were no patent medicines on the bill of drugs ordered by the medical men of that day. The medical man was honored for his worth, and the medical profession was free from the intrigues and trickery that curse it at the present day.

What is there to hinder a general practitioner from having a special apartment arranged in his office for the express purpose of keeping all the standard medicines that are in daily use, and also, have his prescription desk, printed labels, bottles, boxes, etc.; in short, all that constitutes a regular outfit for his business? Will it not more than pay? Will he not get the druggist's 50, 100, yea, 250 per cent. on his outlay? I answer, Most assuredly. Any physician, who wishes to do so, can get the very same rates on medicines from the large wholesale drug houses, that the druggist gets. I know whereof I speak, as I am experimenting along this line. Take, as an illustration, the syrup of hydriodic acid, which costs the druggist $3.50 per gallon, or 2¾ cents an ounce. He sells a four ounce bottle of this to a patient for 50 cents. Now, allow for cost of bottle, label, work and medicine, say, 15 cents. He thus clears 35 cents. Take Fowler's solution of arsenic, which costs the druggist just 20 cents a pint, or 1¼ cents an ounce. The druggist will sell an ounce to a patient at from 25 cents to 40 cents. Now, why should not the doctor have a share in this immense profit, regardless of the claims of the counter-prescribing druggist?

These are plain *hard sense* facts, and worthy the consideration of all general practitioners of medicine who wish to rid the profession of some of the obstacles and chicanery that are damaging our honor and lowering our standard.

SELECTIONS.

THE USE OF TRICHLORACETIC ACID.

BY DR. STANISLAUS v. STEIN,

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Translated, and read before the Milwaukee Medical Society, May 8, 1894.

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[Since the publication of Gleitsmann's articles[1] upon the use of trichloracetic acid two years ago, I[2] have been in the habit of using this application in much the same manner as is recommended in the following translation of an article by Dr. v. Stein. In some thousands of applications I have yet to learn of re-active inflammation or erysipelas following its use. It renders potential cauterization safe even when abundant causes of infection exist, and galvano-cauterization, in conjunction with the after application of trichloracetic acid, may be resorted to with impunity where otherwise we would dread the possibility of septic infection. In several instances where I have neglected its use I have had severe reactive inflammation and in two cases facial erysipelas after potential cauterization, but have always had uniform rapid healing where it has been applied. The same may be said of its use as indicated by the author after chromic cauterization, which I have now used with satisfactory results for over one year.—H. V. Würdemann.]

(The following is translated from Dr. v. Stein's article in the *Monatsschrift für Ohrenheilkunde*, January, 1894):[3]

The excellent caustic and astringent qualities of trichloracetic acid upon mucous membranes, which I first wrote about in a previous article (1889), have since been corroborated by a number of observers. Some additional good therapeutic properties of this acid which I have had occasion to note during the last two years have been little, if at all, considered by others.

1. I showed in my first article that a solution of trichloracetic acid of the strength of 1:500–2000 kept all suppurative processes in abeyance for a week. Therefore I recommended the same to cure acute rhinitis in the first stage, to secure disinfection of the eschar after galvano-cauterization and after bloody operative procedures.

In coryza I have noticed that a half teaspoonful of a 1 per cent. solution dropped lukewarm in either side of the nose, two to four times a day, produced an abundant secretion of mucus and improvement of the subjective symptoms. Since using this as a prophylactic method, I have seldom observed consecutive ear inflammation in those patients who usually had the same during the fall and spring of the year. I would explain this favorable result both by the anti-bacteriologic action of the acid and by the imprisonment of the microörganisms in the coagulated secretions. Accordingly, I sought for other agents more stimulating to the mucous membranes of the nose, and found a satisfactory one in uranium acetate.

℞. Uranii acetici 0.05
Aquæ dest 10.00
M. S. A couple of drops lukewarm in each side of the nose two to three times a day.

2. Weak solutions of trichloracetic acid used in the nose in simple atrophic rhinitis for a considerable time sometimes produce such a decided hypertrophy of the turbinated membranes that it may become necessary to cauterize them in order to secure free breathing. No other medicine of which I am cognizant produces such a remarkable effect, and thus this agent is particularly applicable in the treatment of ozena.

3. In true ozena I now apply much stronger solutions than I did at first; *i.e.*, ½ to 10 per cent. The odor is not so quickly nor so safely abolished by any other medicinal agent as by the acid. Here it is certainly a specific. Sometimes I combine it with iodin (glycerin-kalii-iod. pur.), especially in syphilitic cases.

For the best results it should be applied in the following manner: I begin with a weak solution, 1 to 2 per cent., and use this so long as there is improvement, and afterward using the stronger solutions. It is not proper to begin with a strong solution, as at first many patients are unable to bear them. In many cases the fetor is stopped in a couple of days.

For the application I use a probe 20 cm. long and 2½ to 2 mm. thick, which is grooved on each end. One of the ends is bent in order to get under the turbinated body better. Upon one of the grooved ends hygroscopic cotton is wound in the form of a bead. For each application a small amount of solution is *dropped* upon the probe, and in this manner the other portion of the solution is kept pure. The hardest part of the treatment lies in thoroughly but gently massaging the medicine into all parts of the

[1] "A New Method to Lessen Reaction after Galvano-Cautery," Gleitsmann in Annals Ophth. and Otol., January, 1892.

[2] "Cauterization in Hypertrophic Rhinitis," Würdemann in Annals Ophth. and Otol., July, 1892.

[3] "Ein weiterer Beitrag zur Anwendung das Acidum trichloraceticum," Von Stanislaus von Stein, Monatsschrift für Ohrenheilkunde, Jahrg. xxvii, No. 1. Berlin.

nasal passages, and to continue this method until the crusts no longer form. This procedure is done at first two or three times a day, if it causes no irritation. As soon as the fetor is removed and the crusts are softened it should be applied once a day. In a couple of visits, under the direction of the physician, the most uneducated patient learns the necessary manipulations. Hemorrhage is readily stopped by cotton wool tampons. Zinc ointment or ordinary vaselin may be used in the anterior nares of those patients with delicate skin or tendency to eczema.

By the above described treatment, the fetor is always controlled in my patients; the crusts are softened, are without odor, and are easily blown out of the nose. In many cases the procedure should be repeated once a week to guard against a relapse. In none of my cases did the odor return.

4. If a little white of egg or blood serum be precipitated by chromic acid, and another portion by trichloracetic acid, and the coagulum well washed with water to remove the excess of the acid, it will be remarked that the albumen treated by trichloracetic acid forms a tough membrane while the other is readily broken into pieces.

Upon being kept in Petri's cups, a putrid odor soon arises from the chromic albumen, while the acetic albumen becomes covered over with a moldy scum without odor. In the last case, the putrefactive germs, except when inoculated in a mass, have an unfavorable environment for their development. From this observation I was brought to use trichloracetic acid for disinfection of operations in the nose, the naso-pharynx and pharynx, in order to procure in this way assured antisepsis. I have used this method in a number of thousand of cases in private practice and the out-patient department of Prof. Osbroumoff's clinic of Moscow, Russia, and always with satisfactory results, in that the subsequent history was free from fever and that the wounds heal quickly without infection, even in those persons in whom the opposite had been previously observed. Only one very nervous student, out of all the patients, complained of chills after the cauterization. Before this, I often had consecutive tonsillitis and feeling of stoppage in the ears after galvanic or chromic acid cauterization of the posterior parts of the turbinated bodies.

Accordingly, after cutting operations, I usually put a crystal of trichloracetic acid on the edges of the wound, but use it in a different manner upon the galvano-cauterized surface. In the latter instance the burnt part is divested of its water so that the crystals do not liquefy except upon the edges of the burn. I apply here a strongly concentrated solution, (as this acid is very hygroscopic, if the cork of the bottle containing crystals be kept open for a few hours such a solution may be obtained.—*Trans.*)

The end of a silver probe one mm. thick is wound about with a little cotton, wet with the solution and applied several times to the spot. The eschar becomes snow-white and closely adherent. The course of such a galvano-cauterization is without reaction like that of ordinary trichloracetic cauterization. The slight pain resultant is of shorter duration though a little sharper than that of chromic acid or the galvano-cautery. Trichloracetic acid is given the preference indisputably by many observers for all other effects. After the scab drops off, the wound should again be disinfected.

The same satisfactory results follow chromic acid cauterization followed by application of trichloracetic acid. I must here speak of a peculiarity. If the nasal membranes are but lightly touched by a chromic acid crystal or the concentrated solution, and the superfluous acid removed by a pledget of cotton and the spot again treated by trichloracetic acid, a deep groove may be made similar to that obtained by galvano-cauterization. The reaction is also but little. The application of the two acids is to be particularly recommended in the case of young children.

Trichloracetic acid may be used alone when the hypertrophy is not great. The most satisfactory results are obtained when the areas to be cauterized are weak in elastic tissue. For this reason, turbinated hypertrophies eligible for this treatment are those which are readily contracted by cocain. For greater degrees of thickening, the results are more quickly obtained by the galvano-cautery combined with trichloracetic acid. Acetic acid alone gives less satisfaction in these catarrhs characterized by loose hanging hypertrophied membranes with very abundant flow of mucus, (several handkerchiefs a day) such as is common in children. This may be explained by the fact that the acid becomes weakened by the reaction and loses its (caustic) properties. Chromic acid gives the same result and the secretion may only be controlled by energetic galvano-cauterization, followed by the trichloracetic acid application.

I take away polyps and polypoid growths by the galvano-caustic loop and afterwards apply acetic acid. For experiment in several patients, the cauterization was done in one side of the nose, and omitted in the other. In these cases the patients complained of an unbearable pressure on the one side of the nose (not so treated) occasional pains and abundant flow of irritating mucus.

5. An important factor in the use of trichloracetic acid is that after its use no adhesive inflammation of neighboring portions follows, such as often occurs after chromic acid and galvano-cauterization. This kindly action has allowed me to use the galvano-cautery with after-application of trichloracetic acid upon growths of the nasal septum in very narrow noses without danger of adhesion, in order to pass in the Eustachian catheter, and also to blow out pus deposits from the antrum of Highmore and the frontal sinus.

The results in inflammations of the pharynx are similar to those obtained in the nose. In deep infiltration of the membranes, trichloracetic acid acts superficially and slowly. In other forms, healing is quickly obtained. In follicular tonsillitis following upon acute inflammation the swellings are reduced to their former size after two or three cauterizations. In those lacunar tonsillites in which considerable pus is contained deep in the tonsillar crypts, and in which exacerbations occur every few months or in some cases at intervals of years, I carry the trichloracetic acid crystal upon a fine bulbous-ended and cupped silver sound deep into the crypt. When the mouths of the crypts are greater, I take a fine silver canula three mm. thick in which is contained a piston-like wire with a couple of rings for the fore and middle fingers. To use this pistol-shaped instrument the wire is drawn a little way in and a couple of the crystals laid in the lumen of the canula. Then the bent end is inserted deeply but gently into the crypt and the wire pushed with the thumb on the button.

The entire manipulation, even without cocain, is painless as long as the application of the acetic acid is limited to the tonsil. The application is renewed after the disappearance of the white eschar. The healing is most happy. The submaxillary glands diminish in size and become indolent.

In an old hypertrophic tonsillitis, pharyngitis granulosa and retro-arcualis with proliferation of connective tissue, galvano-cauterization followed by application of trichloracetic acid is most applicable. The result is always recovery without fever and without reaction. Only during the same day is there difficulty in swallowing.

The application of trichloracetic acid in the ear is painful but is of use for small granulations. For these cases I recommend resorcin. Chromic acid is better for larger polypi. When its use is followed by a highly putrid discharge this may be rendered odorless by touching the scab accurately with a concentrated solution of trichloracetic acid. In order to protect the walls of the meatus from harm, it is necessary to smear it well with vaselin and to push in the ear speculum deeply. The excess of acid should be washed out.

(The translator has never used trichloracetic acid in the ear on account of severe neuralgic pain thereby produced. Polypi and other growths are better removed entire than to be slowly burnt out by acids.)

Dr. v. Stein here describes a set of five fenestrated nose specula of different lengths, the use of which is hardly necessary for any one skilled in exact manipulation. Gleitsmann's applicators for the crystallized acid, and the bent probe or Bosworth applicators wound on the end with a minute quantity of cotton, used under strong illumination by the forehead mirror, the nares opened by the dilating hand speculum, are all that are required in educated hands.

805 Grand Ave.

LIST OF MEMBERS
OF THE
AMERICAN MEDICAL ASSOCIATION
AS RETURNED BY R. J. DUNGLISON, M.D.

TREASURER OF THE ASSOCIATION.

ALABAMA

Atkeson, C. L. C., Notasulga 1889
Blair, H. W., Sheffield 1887
Brown, W. A., Garland 1893
Butt, R. L., Midway 1879
Caldwell, Groves, James P. O 1889
Cochrane, J., Montgomery 1884
Crampton, O. L., Mobile 1872
Cunningham, W. M., Corona 1893
Davis, W. E. B., Birmingham 1885
Fessenden, C. L. D., Mobile . . . . . .
Franklin, C. H., Union Springs 1884
Furniss, J. P., Selma 1879
Gilmore, J. N., Gaston 1886
Hatchett, J. R., Athens 1891
Hayes, R. H., Union Springs 1890
Hogan, S. M., Union Springs 1885
Ketchum, Geo. A., Mobile 1880
Sanders, W. H., Mobile 1890
Searcy, J. T., Tuscaloosa 1890
Shivers, O. L., Marion 1887

ARIZONA TER

Collins, T. S., Globe 1894
Hughes, H. A., Phœnix 1885
Ward, W. H., Phœnix 1882

ARKANSAS

Bentley, Edwin, Little Rock 1889
Breysacher, A. L., Little Rock 1873
Bittenger, Wm., Grady . . . . . .
Christian, D., Springdale 1885
Dale, J. R., Arkadelphia 1884
Davis, Chas. E., Eureka Springs 1892
Dibrell, J. A., Sr., Van Buren 1890
Dibrell, J. A., Little Rock 1875
Dunlap, A., Winslow 1885
Enders, R. M., Little Rock 1892
Ewing, D. C., Batesville 1880
Floyd, R. G., Eureka Springs 1877
Gibson, L. P., Little Rock 1885
Guthrie, A., Jr., Quitman 1890
Hancock, J. I., Argenta 1893
Hay, Eugene C., Hot Springs 1892
Holland, T. E., Hot Springs 1893
Hooper, P. O., Little Rock 1875
Horner, A. A., Helena 1893
Hudson, I. G. W., Camden 1885
Hudspeth, J. W., Little Rock 1891
Jelks, Jas. T., Hot Springs 1892
Jelks, L. A., McCrory 1892
Jennings, R. G., Little Rock 1869
Keller, J. M., Hot Springs 1885
Lawrence, W. B., Batesville 1879
Lenow, Jas. H., Little Rock 1875
Linthicum, D. A. Helena 1873
McAlmont, J. J., Little Rock 1883
McGavock, F. G., McGavock 1883
Meek, E., Argenta 1884
Minor, Jas. C., Hot Springs 1884
Moulton, H., Fort Smith 1891
Murrell, T. E., Little Rock 1877
Orto, Z., Pine Bluff 1885
Pendleton, P. H., Pine Bluff 1892
Prather, D. J., Little Rock 1885
Sanders, A. F., Hot Springs 1885
Shibley, J. S., Paris 1885
Southall, Jas. H., Little Rock 1893
Vance, A. J., Harrison 1885
Watkins, C., Little Rock 1882
Watkins, J. M. Little Rock 1886
Welch, W. B., Fayetteville 1873
Witherington, W. J., Paragould 1891

CALIFORNIA

Adams, J. S., Oakland 1894
Anderson, W., San Francisco 1890
Arnold, J. D., San Francisco 1892
Ayer, Washington, San Francisco 1893
Baldwin, Wm. H., Sacramento 1887
Barber, R. D., South Riverside 1882
Bard, Cephas L., Ventura 1894
Barker, Adolph, San Francisco 1893
Bassett, M. F., San Jose 1864
Beebe, Charles E., Woodland 1894
Belknap, L. J., St. Helena . . . . . .
Bellamy, B. C., Covelo 1892
Bowles, G. R., Napa 1893
Brainard, H. G., Los Angeles 1885
Briggs, Wm. Ellery, Sacramento 1894
Briggs, Wallace A., Sacramento 1891
Brown, Philip K., San Francisco 1894
Browning, C. C., Highland (Messina) 1894
Buxton, G. Edw., National City 1894
Casal, F. M., Santa Barbara 1880
Chipman, M. M., San Jose 1876
Clark, Edw. S., San Francisco 1892
Cluness, W. R., Sacramento 1871
Cooper, C. N., Campbell 1880
Cowles, Josiah E., Los Angeles 1894
Davis, G. W., San Francisco 1890
Davisson, J. H., Los Angeles 1887
De Szigethy, C. A. H., Los Angeles 1877
De Vecchi, P., San Francisco 1894
Dodge, Wm. Los Angeles 1894
Ellinwood, C. N., San Francisco 1893
Ellis, H. B., Los Angeles 1893
Fenn, C. M. San Diego 1885
Foote, E. N., Lockeford 1892
Gibbons, Henry, San Francisco 1893
Gordon, Wm. A., San Jose 1894
Hanson, Geo. F., San Francisco 1894
Harris, S. M., N. San Juan 1892
Hearne, J. C., San Diego 1880
Hirschfelder, J. O., San Francisco 1893
Hopkins, W. E., San Francisco 1894
Hunt, R. M., Nevada City 1894
Huntington, I. W., Sacramento 1891
Hurley, James M., San Bernardino 1894
Jones, Albert M., Redlands 1888
Jones, H. Isaac, San Francisco 1873
Kerr, Wm., San Francisco 1893
Kierulff, B. F., Los Angeles 1882
King, C. L., Lamanda Park 1892
Knox, S. B. P., Santa Barbara 1894
Kreutzmann, H., San Francisco 1894
Lane, J. R., Sacramento 1893
Lane, L. C. San Francisco 1871
Lascher, G. W., Los Angeles 1893
Lewis, W. M., Los Angeles 1888
Lindley, Walter, Whittier 1892
Livingston, J. L., Los Angeles 1892
MacMonagle, B., San Francisco 1892
McAllister, W. L., Pasadena 1886
McLean, R. A. San Francisco 1893
McNutt, W. F., San Francisco 1882
Maynard, H. H., Los Angeles 1889
Miller, J. H., Redding 1889
Miller, R. E., Napa 1893
Montgomery, D. W., San Francisco 1894
Norris, Basil, San Francisco 1894
Orme, H. S., Los Angeles 1882
Parkinson, J. H., Sacramento 1884
Paulding, O. P., Santa Maria 1882
Payne, F. H., Berkley 1884
Phelan, Gregory J., San Francisco 1894
Pinkerton, I. H., Oakland 1881
Pischl, Kaspar, San Francisco 1894
Plummer, R. H., San Francisco 1885
Powers, G. H., San Francisco 1894
Remondino, P. C., San Diego 1880
Reynolds, G. P. Alameda 1886
Richter, C. Max, San Francisco 1894
Rigdon, R. L., San Francisco 1893
Rixford, E., San Francisco 1894
Robertson, E. B., Jackson 1894
Rosenstein, J., San Francisco 1894
Ruggles, C. A. Stockton 1880
Rumbold, T. F. San Francisco 1874
Sanderson, H. E., San Francisco 1894
Sherman, H. M., San Francisco 1894
Shurtleff, G. A., Stockton 1871
Simmons, G. C., Sacramento . . . . . .
Simmons, G. L., Sacramento 1871
Simonton, A. C., San Jose 1884
Somers, G. B., San Francisco 1893
Stuart, A. McG., Santa Rosa 1885
Taylor, A. M., Oakland 1892

Thrasher, Marion, San Francisco 1892
Todd, F. W., Los Angeles 1879
Tyrrell, G. G., Sacramento 1881
Tyrrell, G. G., Jr., Wheatland 1893
Voorhies, Alfred H., San Francisco 1894
Wadsworth, C. C., San Francisco 1893
Wagner, H. L., San Francisco 1892
Ware, C. D., Pokegama . . . . . .
Welges, L., Woodland 1886
White, G. A., Sacramento 1887
Wills, Wm. L., Los Angeles 1894
Wills, W. L., Los Angeles 1893
Wood, T. D., Stanford University 1894
Woolsey, E. H., Oakland 1882
Wright, Jno., San Jose 1869
Wright, H. J., San Jose . . . . . .
Wyeth, Joseph H., Oakland, Cal. . . . . .

CANADA

Ferguson, A. H., Winnipeg, Manitoba. . . . 1893
Hobley, Thomas, Amherstburg, Ont 1892

COLORADO

Arnold, W. W., Colorado Springs 1883
Bane, Wm. C., Denver 1889
Bates, Mary E., Denver 1893
Beshoar, M., Trinidad 1874
Bucknum, A. M., Denver 1877
Campbell, W. A., Colorado Springs 1893
Carlin, P. V., Denver . . . . . .
Case, A. S., Denver 1883
Clark, J. K., Denver 1880
Davis, W. C., Denver 1893
Davis, W. H., Denver 1893
De Beque, W. A. E., De Beque 1893
Denison, Chas., Denver 1875
Dodge, H. O., Boulder 1877
Dorland, W. L., Pueblo 1883
Dunwoody, J. A., Colorado Springs 1889
Eldridge, E. F., Grand Junction 1885
Elsner, Jno., Denver 1871
Eskridge, J. I., Denver 1893
Fleming, C. K. Denver 1893
Foster, J. M., Denver 1892
Graham, J. W., Denver 1886
Grant, W. W., Denver 1873
Hall, J. N., Denver 1891
Hawes, Jesse, Greeley 1882
Horn, Thos. G., Colorado Springs 1890
Jeffery, A. F., Denver 1892
La Mond, Robt. F., Denver 1893
Law, G., Greeley 1892
Levy, Robert, Denver 1889
McDermith, S. T., Denver 1881
Munn, W. P., Denver 1892
O'Connor, J. W., Denver 1885
Robinson, A. J., Aspen 1892
Schenck, W. L., New Castle 1877
Seaman, M. W., Denver 1884
Solly, S. Edwin, Colorado Springs 1889
Stedman, A., Denver 1887
Tucker, B. St. George, Colorado Springs . . 1886
Waxham, F. E., Denver 1886
Yoakum, F. E., Denver 1888

CONNECTICUT

Abrams, Alva E., Hartford 1889
Alton, C. D., Hartford 1891
Bacon, W. T., Hartford 1893
Barnes, J. S., Oxford . . . . . .
Barnes, L., Oxford 1883
Bishop, T. H., New Haven 1865
Bouton, Geo. B., Westport 1893
Braman, F. M., New London 1884
Brayton, Chas. E., Stonington 1889
Carrington, Chas., Farmington 1872
Castle, F. E., Waterbury 1880
Crothers, Thos. D., Hartford 1888
Davis, E. H., Plainfield 1884
Davis, G. P., Hartford 1880
Day, Loren T., Westport . . . . . .
Dunham, M. V. B., Greenfield Hill 1891
Eliot, G., New Haven 1884
Fox, Chas. J., Willimantic 1880
Fuller, H. S., Hartford 1884
Garlick, S. M., Bridgeport 1891
Godfrey, Chas. C., Bridgeport 1889
Hill, Edwin A., E. Killingly 1864
Hills, T. M., Willimantic 1870
Hughes, O. J. D., Meriden 1893
Jarvis, Geo. C., Hartford 1872
Johnson, Marcus M., Hartford 1894
Knight, Geo. H., Lakeville 1889
Lindsley, Chas. A., New Haven 1884
Moody, M. B., New Haven 1889
Morrell, F. A., Putnam 1893
Nelson, A. W., New London 1888
Newton, C. B., Stafford Springs 1891
Paddock, L. S., Norwich 1892
Peckham, L. C., New Haven 1891
Porter, Geo. L., Bridgeport 1880
Rankin, Chas. G., Glastonbury 1893
Robinson, Rienzi, Danielsonville 1890
Root, Jos. E., Hartford 1889
Shelton, G. A., Shelton 1880
Shephard, G. R., Hartford 1881
Smith, F. S., Chester 1893
Stearns, H. P., Hartford 1892
Storrs, M., Hartford 1893
Swasey, E. P., New Britain 1880
Turner, S. W., Chester 1880
Wainwright, W. A. M., Hartford 1873
Whittemore, F. H., New Haven 1884
Wile, W. C., Danbury 1882

DAKOTA

Archibald, O. W., Jamestown 1878
Bowman, A. H., Deadwood, S 1892
Capehart, H., Fargo, N 1891
Coyle, W. B., Lakota, N 1892
Coyne, S. J., Aberdeen, S 1890
Crain, F. M. Doland 1886
Darrow, E. M., Fargo N 1887
Dickinson, D. K., Lead City, S 1885
Duncan, W. E., Aberdeen, S 1891
Edgerton, W. E., Salem, S 1891
Freeman, J. W., Lead City, S 1885
Kaull, W. M., Frankfort, S 1893
Kutnewsky, J. K., Redfield, S 1890
McConnell, J. D., Fargo, N 1888
Wear, I. N., Fargo, N 1886

DELAWARE

Bishop, L. A. H., Dover 1893
Collins, S. B., Seaford 1883
Ellegood, Robt. G., Concord 1880
Marshall, Wm., Milford 1891
Richards, C. H., Georgetown 1879
Wilson, J. H., Dover 1891

DISTRICT OF COLUMBIA

Acker, G. N., Washington 1881
Adams, S. S., Washington 1881
Alden, C. H., Washington 1880
Barker, H. H., Washington 1872
Beardsley, G. S., Washington 1891
Behrend, A., Washington 1891
Belt, E. O., Washington 1891
Billings, J. S., Washington 1868
Boarman, C. V., Washington 1884
Bovee, J. Wesley, Washington 1891
Bowen, C. H., Washington 1891
Briscoe, W. C., Washington 1884
Bromwell, J. R., Washington 1884
Brown, C. W., Washington 1876
Bruckheimer, M., Washington 1891
Brumbaugh, G. M., Washington 1891
Bryan, J. H., Washington 1889
Bulkley, J. W., Washington 1878
Busey, S. C., Washington 1870
Byrns, W. F., Washington 1891
Chappell, J. W., Tennallytown 1893
Cook, G. W., Washington 1887
Deale, Henry B., Washington 1891
Dean, R. C., U. S. Navy 1890
Dexter, J. E., Washington 1891
Donnally, W. N., Washington 1891
Donohue, F., Washington 1891
Eliot, L., Washington 1891
Evans, W., Washington 1870
Foster, W. W., Washington 1884
Fox, W. H., Washington 1891
Franzoni, C. W., Washington 1872
Friedrich, L. L., Washington 1891
Fry, H. D., Washington 1884
Gihon, A. L., U. S. Navy 1876
Gobrecht, W. H., Washington 1858
Godding, W. W., Washington 1884
Gunnell, F. M., Washington 1876
Hagner, D. R., Washington 1884
Hammond, T. V., Washington 1890
Hance, T. F., Washington 1891
Hansmann, Theo., Washington 1891
Hawkes, W. H., Washington 1891
Hazen, David H., Washington 1889
Heger, A., U. S. A., Washington 1891
Holden, R. T., Washington 1884
Howard, J. T., Washington 1891
Hyatt, Frank, Washington 1881
Johnson, J. T., Washington 1876
Jones, A. W., Washington 1891
Jones, D. W., Washington 1884
Kertz, Jno., Washington 1892
King, A. F. A., Washington 1881
Kleinschmidt, C. H. A., Washington 1880
Lamb, D. S., Washington 1889
Lincoln, N. S., Washington 1876
Lovejoy, J. W. H., Washington 1864
McArdle, T. E., Washington 1884
McLain, J. S., Washington 1892
Mackall, L., Georgetown 1884
Magruder, G. L., Washington 1880
Marmion, W. V., Washington 1891
Moran, J. F., Washington 1890
Morgan, Jas. D., Washington 1889
Muncaster, M., Washington 1891
Muncaster, S. B., Washington 1893
Mundell, J. H., Washington 1891
Neale, R. A., Washington 1891
Ober, Geo. C., Washington 1888
Owsley, Wm. T., Washington 1890
Parsons, Mary, Washington 1891
Pool, B. G., Washington 1891
Prentiss, D. W., Washington 1880
Reyburn, Robt., Washington 1868
Richardson, C. W., Washington 1889
Ritchie, Lewis W., Georgetown 1889
Rives, W. C., Washington 1889
Rixey, P. M., Washington 1891
Shively, J. W., Washington 1881
Smart, Chas., U. S. A., Washington . . . . .
Sothoron, Jas. T., Washington 1889
Sowers, Z. T., Washington 1887
Sprigg, W. M., Washington 1891
Stone, Isaac S., Washington 1885
Storch, A. B., Washington 1883
Suddarth, J. L., Washington 1893
Strickler, M. B., Washington 1884
Thompson, J. F., Washington 1881
Toner, J. M., Washington 1864
Vaughan, G. T., Washington 1890
West, G. W., Washington 1881
Winter, John T., Washington 1889
Wolhaupter, D. P., Washington 1891
Woodward, Wm. C., Washington 1894
Wyman, W., U. S. M. H. S., Washington . . . 1884
Yarrow, H. C., Washington 1891
Young, J. T., Washington 1891

FLORIDA

Alba, E. M., St. Augustine 1892
Anderson, W. E., Pensacola 1891
Betton, G. W., Tallahassee . . . . . .
Burroughs, R. B., Jacksonville 1886
Caldwell, F. H., Sanford 1890
De Long, W. H., Emporia 1884
Drew, C., Jacksonville 1893
Izlar, R. P., Ocala 1892
Lancaster, R. A., Gainesville 1885
Maloney, J. B., Key West 1892
McLane, J. N., De Furniak Springs 1892
Moor, W. L., Tallahassee 1885
Murray, R. D., U. S. M. H. S., Key West . . 1872
Myers, T. J., Ocklawaha 1892
Oglesby, C. R., Pensacola 1891
Palma, E. M., Key West 1891
Plummer, J. W., V. R. Key West 1892
Porter, J. Y., Key West 1892
Wall, J. P., Tampa 1879
Weedon, Leslie W., Tampa 1890
Worcester, O. E., Conant 1890
Wright, O. S., Plant City 1892

FOREIGN

Sundberg, J. C., Bagdad, Turkey . . . . . .

GEORGIA

Armstrong, W. S., Atlanta 1870
Bailey, J. W., Gainesville 1878
Battey, Robt. Rome 1875
Boyd, M. L., Savannah 1892
Cortelyou, P. R., Marietta 1887
Doughty, W. H., Augusta 1890
Dunlap, A. S., Dalton 1875
Elkin, W. S., Atlanta 1891
Foster, Eugene, Augusta 1887
Garlington, T. R., Rome 1893
Gaston, J. McF., Atlanta 1886
Goodrich, E. C., Augusta 1880
Goss, I. H., Athens 1888
Grimes, Geo. J., Columbus 1879
Hardin, R. A., Savannah 1884
Hardman, L. G., Harmony Grove 1883
Holmes, J. B. S., Rome 1889
Holt, Wm. F., Macon 1879
Hopkins, J. G., Thomasville 1890
Hopkins, T. S., Thomasville 1875
Hoyt, W. D., Rome 1879
Jenkins, R. H., Hogansville 1880
Lamb, T., Augusta 1885
McHatton, H., Macon 1884
McIntosh, T. M., Thomasville 1885
McRae, F. W., Atlanta 1891
Martin, J. D., Savannah 1880
Nicholson, Wm. P., Atlanta 1889
Nunn, R. J., Savannah 1876
O'Daniel, W., Bullard's Station 1879
Powell, Lucy E., Atlanta 1887
Richardson, E. H., Atlanta 1885
Rowland, A. A., Brunswick 1877
Smith, J. E. W., Waycross 1885
Taylor, J. M., Kirkwood 1893
Wood, Wm. E., Dalton 1891

IDAHO

Genoway, C. V., Wallace 1894
Givens, J. W., Blackfoot 1894
Watkins, W. W., Moscow 1894

ILLINOIS

Abbott, W. C., Ravenswood 1893
Adams, A. L., Jacksonville 1893
Adolphus, P., Chicago 1884
Akins, W. T., Chicago 1887
Alderson, J. J., Chicago 1887
Allison, W. R., Good Hope 1888
Anderson, Bennet C., Beardstown 1890
Andrews, E., Chicago 1851
Andrews, E. W., Chicago 1893
Angear, J. J. M., Chicago 1892
Armstrong, C., Carrollton 1886
Auld, J. Maxwell, Chicago 1887
Ayer, L. P., Kewanee 1893
Babcock, Robt. H., Chicago 1887
Bacon, J. B., Chicago 1893
Bacon, C. S., Chicago 1893
Baker, L. H., Oak Park 1873
Baldwin, A. E., Chicago 1886
Ballenger, W. L., Evanston 1892
Baughman, J. A., Neoga 1894
Barger, R. N., Hopedale 1884
Barlow, L. N., Chicago 1887
Barlow, C., Eaton 1892
Barnes, I. N., Decatur 1887
Bartlett, J., Chicago 1887
Barton, P. H., Danville 1883
Berry, J. G., Chicago 1887
Besharian, J. H., Chicago 1884
Best, J. E., Arlington Heights 1887
Bettman, B., Chicago 1887
Bevan, A. D., Chicago 1894
Biddle, J., Monmouth 1886

Billings, F., Chicago 1884
Bishop, S. S., Chicago 1892
Blair, E. J., Monmouth 1891
Blaine, John E., Dwight 1894
Bondurant, A. A., Cairo 1883
Bouffleur, A. I., Chicago. 1891
Bower, Reuben W., Sheridan. 1894
Braffet, Jas. H., Paw Paw 1891
Brenton, Wash., Tuscola 1893
Brobeck, A. L., Wellington 1891
Broughton, R., Dwight 1892
Brower, D. R., Chicago 1877
Brown, E. J., Decatur 1892
Brown, H. B., Lincoln 1887
Brown, H. H., Chicago 1892
Brown, Jas. L., Peoria 1888
Brown, Sawyer, Chicago 1892
Buck, H. B., Springfield 1876
Bumstead, J. E., Dundee. 1887
Barnham, A. F., Ashland 1886
Burr, Albert H., Chicago 1892
Burwash, T. N., Plainview 1886
Byford, H. T., Chicago 1874
Caldwell, W. S., Freeport 1887
Campbell, J. Y., Paxton 1882
Cary, F., Chicago. 1887
Carter, J. M. G., Waukegan 1882
Casselberry, W. E., Chicago 1887
Catlin, E. P., Rockford 1884
Chamberlain, G. M., Chicago 1877
Chapman, G. H., Grand Crossing 1887
Chenoweth, W. J., Decatur 1872
Chew, J. H., Chicago 1877
Christopher, W. S., Chicago 1888
Clarke, W. E., Chicago 1882
Cleveland, E. F., Dundee 1880
Clifford, E. L. Chicago 1892
Colburn, J. Elliot, Chicago 1887
Cole, N. B., Bloomington 1884
Cole, Samuel, Chicago . . . .
Cole, W. C., Jacksonville 1886
Colt, J. D., Litchfield 1893
Connor, J. J., Pana 1886
Coolridge, F. S., Chicago 1893
Cook, E. P., Mendota. 1876
Cook, J. C., Hyde Park 1887
Cook, Wm. H., Coffeen 1894
Cooke, A. H., Chicago 1884
Corr, A. C., Carlinville 1886
Cory, A. L., Chicago 1893
Cowan, J. E., Galesburg 1882
Cox, W. M., Mt. Sterling 1883
Cozad, Jas., Reynolds 1876
Craig, G. G., Rock Island 1878
Crawford, N. B., Eureka 1890
Crow, J. T., Carrollton 1886
Curtiss, R. M., Union 1890
Dahl, S., Chicago 1893
Danforth, I. N., Chicago 1886
Davison, J. B., Moline 1873
Davis, N. S., Chicago 1847
Davis, N. S., Jr., Chicago 1886
De Veny, S. C., Chicago 1884
Dicuss, Geo. A., Streator 1890
Dickerson, L. A., Chicago 1892
Dieffenbacher, P. L., Havana 1881
Dixon, J. N., Springfield 1887
Doering, E. J., Chicago 1887
Dougall, Wm., Joliet 1877
Dougherty, P., Chicago 1887
Dudley, E. C., Chicago 1883
DuHadway, C., Jerseyville 1882
Earle, Frank B., Chicago 1894
Eckley, W. T., Chicago 1887
Eddy, W. J., Shelbyville 1891
Engert, R. H., Chicago 1887
Englemann, Rosa, Chicago 1894
Ensign, W. O., Rutland 1877
Etheridge, J. H., Chicago 1885
Evans, W. A., Chicago 1893
Eyster, Geo. L., Rock Island 1886
Farley, W. K., Waterman 1894
Fenger, Christian, Chicago. 1882
Fiegenbaum, E. W., Edwardsville 1886
Fink I. W., Hillsboro 1876
Fish, W. H., Baylis 1885
Fiske, G. F., Chicago 1887
Fitch, W. H., Rockford 1884
Fitch, T. D., Chicago 1884
Foote, D. E., Belvidere 1878
Foster, A. H., Chicago 1887
Frank, J., New Liberty 1888
Freeman, J. A., Millington 1882
Fringer, W. R., Rockford 1891
Gamble, W. E., Chicago 1892
Gapen, Clarke, Kankakee 1883
Gardiner, Edwin J., Chicago 1889
Garrison, Harriet, Dixon. 1883
German, W. H., Morgan Park 1887
Gilson, Geo. H., Shipman 1887
Goble, E. T., Earlville 1887
Godfrey, H. T., Galena 1881
Goldspohn, A., Chicago 1885
Goodman, T. B., Cobden 1888
Gorgas, L. D. S., Chicago. 1887
Gradle, Henry, Chicago 1887
Graham, D. W., Chicago 1886
Green, Earl, Mt. Vernon 1886
Griffith, B. M., Springfield 1882
Grimstead, W. F., Cairo 1885
Guthrie, H. R., Sparta 1880
Guthrie, W. E., Bloomington 1893
Guttery, Wm. V., Middletown 1890
Haigler, E. E., Springfield 1892
Haines, W. S., Chicago 1887
Hall, C. W., Kewanee 1894
Hall, J. M., Chicago 1887
Hall, R. N., Chicago 1887
Hallam, J. L., Centralia 1885
Haller, F. B., Vandalia 1859
Hamilton, J. B., Chicago 1873
Hardy, H. T., Kaneville 1887
Hardie, T. Melville, Chicago 1893
Harlan, A. W., Chicago 1884
Harmison, D. C., Bath 1892
Harris, B., Aurora 1892
Harris, B. H., Groveland 1884
Harsha, W. M., Chicago. 1887
Hatch, H., Quincy 1892
Hartley, J. D., Chicago 1884
Haskell, W. A., Alton 1877
Hatfield, M. P., Chicago 1884
Haven, A. C., Lake Forest 1886
Hawley, C. W., Chicago 1888
Heckard, M. O., Chicago 1894
Heise, Ellen H., Canton 1891
Hemala, Richard, Onarga 1892
Hemenway, H. B., Evanston 1885
Henderson, J. P., Chicago 1887
Henry, Robt. F., Princeville 1886
Hequembourg, J. E., Chicago 1887
Herrick, J. B., Chicago 1893
Herriott, E. L., Jacksonville 1886
Hess, F. A., Chicago 1888
Hessert G., Chicago 1891
Hester, W. W., Chicago 1885
Hickman, T. G., Vandalia 1884
Hilsabeck, W. F., Windsor 1890
Hinde, Alfred, Chicago. 1893
Hilton, G. V., Chicago 1886
Hillmantel, J. L., Chicago 1892
Hoadley, A. E., Chicago 1886
Holderness, E. P. G., Chenoa 1885
Hollister, J. H., Chicago 1873
Holmes, Bayard, Chicago 1888
Holmes, E. L., Chicago 1877
Holroyd, E. C., Chicago 1892
Hoopman, S. V., Roanoke 1891
Hosmer, A. B., Chicago 1887
Hotz, F. C., Chicago 1887
Hughes, N. J., Waverly 1892
Hull, M. D., Bloomington . . . .
Hunt, C. C., Dixon 1877
Hunter, C. T., Springerton 1886
Huntsinger, J. C., Pinckneyville 1886
Hurlbut, V. L., Chicago 1863
Hurst, S. T., Green View 1885
Hutchins, W. A., Orangeville. 1894
Hyde, J. N., Chicago 1877
Ingals, E., Chicago 1877
Ingals, E. Fletcher, Chicago 1877
Isham, Ralph N., Chicago 1859
Jay, Frank W., Chicago 1894
Jenckes, H. L., Galena 1893
Jenks, D. S., Plano 1882
Johnson, C. W., Litchfield 1886
Johnson, F. S., Chicago 1883
Jones, G. W., Danville 1873
Jones, S. J., Chicago 1877
Jump, D. W. Plainfield 1883
Kauffman, J. S., Blue Island 1887
Keith, Wm., Chicago. 1892
Kendall, H. W., Quincy 1872
Kerrick, H. C., Brocton. 1894
Kewley, J. R., Chicago 1887
Kiernan, J. G., Englewood 1888
Kilgore, J. C. Monmouth 1882
Kitchen, J. L., Harvey 1884
Knight, F. C., Libertyville 1894
Knight, Mary G., Aurora 1886
Kreider, G. N., Springfield 1893
Kurtz, C. E., Chicago 1883
Landon, W. M., Fowler 1886
Latham, V. A., Chicago 1893
Leahy, M. M., Chicago 1883
Ledlie, J. H., Pittsfield 1878
Lee, Elmer, Chicago 1886
Lee, E. W., Chicago 1889
Leeds, L. L., Lincoln 1885
Leonard, R. L., Chicago 1887
Lewis, C. J., Chicago 1886
Lewis, Denslow, Chicago 1886
Lichty, D., Rockford 1873
Linden, F. C., Chicago 1894
Littlefield, H. H., Beardstown 1875
Livingood, Jno. R., Rossville 1883
Lonergan, W. D., Chicago 1887
Loomis, E. B., Chicago 1887
Lydston, G. Frank, Chicago 1886
Lydston, J. A., Chicago 1887
McArthur, L. L., Chicago 1885
McCullough, J. R., Chicago 1887
McCurdy, J. G., Chicago 1892
McIlvaine, P. M., Peoria 1882
McFall, D. M., Mattoon 1893
McGaffigan, A. J., East St. Louis 1887
McKennan, H., Paris 1891
McLean, John, Pullman 1876
McClelland, R. A., Yorkville. 1887
McMann, W. W., Gardner 1874
McMillan, P. H., Shiloh Hill 1886
McNary, W. H., Martinsville 1878
McCreight, S. L., Chicago. 1892
McWilliams, S. A., Chicago 1877
MacArthur, R. D., Chicago 1888
Mackenzie, W. R., Chester 1884
Maclay, A. I., Delavan 1891
Malone, L. A., Jacksonville 1886
Mammen, E., Bloomington 1893
Marshall, J. S., Chicago 1882
Marshall, S. W., Sparta 1886
Martin, F. H., Chicago 1886
Martin, S. C., Anna 1887
Martin, Wm S., Tuscola 1890
Matthews, J. P., Carlinville 1877
Mattison, F. C. E., Chicago 1891
Mayo, E. L., DeKalb 1887
Melms, R., Chicago 1893
Mellish, E. J., Chicago 1893
Mercer, F. W., Chicago 1887
Mergler, M. J., Chicago 1887
Mettler, L. H., Chicago 1890
Miller, De Laskie, Chicago 1886
Miller, J. H., Pana 1886
Miller, Katharine, Lincoln. 1894
Miller, R. E., Chicago 1887
Mitchell, J. H., Mt. Vernon 1886
Mitchell, Orlando, Marshall 1888
Mitchell, Robt. J., Girard 1886
Montgomery, L. H., Chicago 1882
Montgomery, Wm. T., Chicago 1886
Moon, O. W., Lockport 1874
Moore, O. T., Marissa 1886
Morgenthau, George L., Chicago. 1892
Moyer, H. N., Chicago 1888
Mudd, W. A., Athens 1886
Murphy, J. B., Chicago 1887
Myers, J. C., Clinton 1891
Nash, A., Joliet 1872
Nelson, D. T., Chicago 1877
Nesbitt, G. W., Sycamore. 1878
Newcomer, J. M., Petersburg 1891
Newman, H. P., Chicago 1882
Niles, J. W., Chicago 1894
Noble, C. M., McLean 1882
Norbury, F. P. Jacksonville. 1893
Norris, A. L., Farmer City 1891
Nutt, F. L., Marengo 1888
O'Neil, John W., Chicago. 1894
Ochsner, A. J., Chicago 1893
Ohlmacher, A. P., Chicago 1893
Oughton, C. M., Chicago 1893
Owens, John E., Chicago 1877
Oyler, P. H., Mt. Pulaski 1885
Paoli, G. G., Chicago 1863
Parke, C. R., Bloomington 1887
Parkhurst, F. J., Danvers. 1887
Patch, Wm., Ellsworth 1892
Patton, E. M., Quincy. 1894
Payne, D. A., Chicago. 1894
Pearman, J. P., Champaign 1887
Pendleton, F. M., Chicago 1889
Percy, Jas. F., Galesburg 1887
Phillips, E. L., Galesburg. 1874
Pierce, N. H., Chicago 1892
Pitner, T. J., Jacksonville 1872
Plecker, J. H., Chicago 1885
Plummer, S. C., Rock Island 1873
Plummer, S. C., Jr., Chicago 1887
Pogue, J., Edwardsville 1887
Polk, John L., Arcola 1887
Pollock, W. L., Englewood 1882
Priestman, J. L., Neponset 1889
Prince, A. E., Springfield 1884
Prince, L. H., Chicago 1891
Proctor, E. G., Kane 1886
Pruyn, C. P., Chicago 1888
Purdy, C. W., Chicago 1887
Pusey, W. A., Chicago 1893
Putney, W. G., Serena 1887
Pynchon, Ed., Chicago 1886
Quine, Wm. E., Chicago 1894
Reynolds, A. R., Chicago 1883
Reynolds, G. W., Chicago 1893
Rhodes, J. E., Chicago 1887
Richards, W. M., Joliet 1883
Richings, H., Rockford. 1886
Ridlon, John, Chicago 1894
Rivard, Geo. J., Assumption 1886
Ring, John, Chicago 1892
Robbins, M. M., Aurora 1877
Robinson, F. B., Chicago 1893
Rohr, G. W., Rockford 1877
Romig, S. V., Rogers Park 1887
Rook, C. W., Quincy 1884
Rooney, M., Quincy. 1884
Root, E. H., Chicago 1887
Roseberry, B. S., Lacon. 1891
Roskoten, R., Peoria 1874
Ross, G. W., Carrollton. 1886
Rosson, John B., Ava 1886
Rowe, Mark, Redmon 1882
Rutherford, C., Chicago 1892
Ryon, Geo., Amboy. 1893
Schafer, F. C., Chicago 1878
Schneck, J., Mt. Carmel 1885
Schwartz, E., Knoxville 1887
Seeley, T. P., Chicago 1883
Senn, N., Chicago. 1873
Shinn, W. R., Chenoa 1892
Shipp, F. J., Petersburg. 1881
Sims, S. N., St. Joseph 1887
Skeer, J. D., Chicago 1886
Slater, A. S., Wataga 1883
Slater, Catherine B., Aurora 1882
Sloan, W. K., Moline 1887
Small, A. R., Chicago 1887
Smedley, N. J., Chicago 1892
Smith, Lee, Bloomington. 1882
Sparling, W. H., Moweaqua. 1891
Spear, J. W., Mason City 1888
Spear, L. E., Shirley. 1886

Stanley, F. A., Chicago 1886
Starkey, H. M., Chicago. 1887
Starkweather, R. E., Chicago. 1888
Steele, D. A. K., Chicago. 1877
Stelman, H. B., Chicago 1893
Stillians, D. C., Chicago 1887
Stoddard, G. W., Ramsey. 1891
Strong, A. B., Chicago 1886
Stowell, J. H., Chicago 1887
Suggett, W. L., Flora 1880
Swan, W. S., Harrisburg 1887
Sweetland, W. M., Highland Park 1885
Swartz, T. B., Chicago . . . . . .
Tagert, A. H., Chicago 1882
Talbot, E. S., Chicago. 1881
Tefft, Leslie E., Elgin 1887
Thomas, A. L., Chicago. 1887
Thompson, L. G., Lacon 1883
Thompson, Mary H., Chicago 1886
Thompson, S., Galva 1888
Tibbits, L., Rockford 1880
Tilley, Robert, Chicago. 1884
Todd, J. F., Chicago. 1880
Trout, W. A., Atwater. 1886
Truesdale, C., Rock Island. 1882
Turner, B. S., Chicago 1894
Turck, F. B., Chicago. 1893
Tyler, J. H., Clinton 1887
Tran, B. F., Kankakee 1887
Van Horne, A. K., Jerseyville 1873
Veatch, W. H., Carthage 1893
Verity, W. P., Chicago 1882
Vertress, C. M., Murrayville. 1886
Vreeland, H. E., Chicago. 1892
Wadsworth, J. L. R., Collinsville 1873
Walbridge, J. P., Decatur. 1887
Walker, J. B., Effingham 1884
Wallace, J. H., Monmouth 1877
Ware, Lyman, Chicago 1886
Webster, G. W., Chicago 1887
Wells, E. F., Chicago. 1894
Webster, J. R., Monmouth 1877
Wertenbaker, C. P., Chicago. 1891
West, E. A., Chicago 1890
West, W. C., Geneseo. 1891
Westcott, G. D., Chicago 1887
Wetmore, A., Waterloo 1886
Whelpley, H. M., Cobden. 1891
White, J. L., Bloomington 1880
Whitefield, G. W., Evanston. 1891
Whitmire, J. S., Metamora. 1892
Whitley, J. D., Petersburg 1880
Whitten, T. J., Jacksonville 1888
Wilder, W. H., Chicago 1891
Will, O. B., Peoria. 1886
Willard, E. R., Wilmington. 1872
Williams, D. H., Chicago. 1887
Williams, J. F., Chicago 1887
Williams, T. W., Casey 1887
Willis, W. H., Whitefield 1887
Wilson, J. T., Galesburg. 1882
Wing, E., Chicago. 1887
Wood, C. A., Chicago. 1892
Woodworth, P. M., Chicago. 1886
Zeisler, J., Chicago. 1887
Zeller, G. A., Peoria. 1887

INDIANA

Adams, J. R., Petersburg. 1879
Ader, H., Somerset 1873
Arnold, John, Rushville 1875
Arthur, C. S., Portland 1883
Bacon, C. P., Evansville 1874
Bailey, G. D., Spiceland 1888
Ball, J. T., Judson. 1888
Banker, A. J., Columbus 1886
Batman, W. F., Ladoga 1890
Beasley, G. F., Lafayette 1878
Becknell, Irvin J., Milford 1884
Bell, Guido, Indianapolis 1890
Bell, W. H., Logansport 1874
Berteling, J. B., South Bend. 1888
Binkley, J. T., Evansville. 1891
Bitz, L. B., Evansville 1878
Bloomfield, E. M., Peru. 1883
Blount, R. F., Wabash 1882
Bond, C. S., Richmond 1887
Bond, R. C., Aurora. 1888
Bonnell, Thos. A., New Brunswick 1893
Bonnell, M. H., Lebanon. 1888
Bonnell, H. M., Jamestown 1893
Boswell, A. J., Ft. Wayne. 1884
Brucker, C. M., Tell City. 1888
Bryan, T. M., Indianapolis 1885
Burke, G. W., Newcastle 1882
Burket, C. W., Warsaw 1887
Byers, A. R., Petersburg 1890
Carson, L. O., Traders Point 1884
Chafee, W. C., Huntington 1887
Chittick, Chas., Frankfort 1892
Charlton, S. H., Seymour. 1875
Clark, L., Elkhart. 1892
Cline, L. C., Indianapolis 1890
Clouser, N. D., Hartford City. 1888
Coleman, A., Logansport. 1876
Cook, C. P., New Albany 1886
Cook, Geo. J., Indianapolis. 1886
Cox, E., Kokomo 1893
Cooperider, J., Madison 1893
Crapo, J. R., Terre Haute. 1888
Crapo, G. W., Terre Haute 1878
Culbertson, R. H., Brazil 1881
Culbertson, Scott, Moorfield 1890
Dancer, J., South Milford. 1887
Darby, A. B., Waterloo 1887
Daugherty, C. A., South Bend 1886
Davis, L. N., Farmland 1883
Davisson, H. C., Hartford City. 1883
Dayton, G. H., Lima 1884
Donaldson, E. F., Wabash 1884
Drayer, P., Hartford City. 1882
Dunning, L. H., Indianapolis. 1876
Eastman, J., Indianapolis 1873
Eckelman, F. C., Elkhart. 1887
Eichelberg, W. C., Terre Haute 1891
Elder, E. S., Indianapolis 1892
Fermier, P., Weisburg 1891
Fertich, G. W., Dunkirk 1893
Finley, G. W., Harmony 1893
Fink, H. A., South Bend 1892
Fitch, A. P., Lebanon 1891
Fletcher, C. I., Indianapolis 1887
Flynn, Wm., Marion 1887
Ford, J. H., Wabash. 1886
Freeman, E. D., Osgood 1884
Fry, C. W., Bracken. 1887
Fullinwider, C. H., Mt. Vernon 1890
Galbraith, S. T., Seymour. 1893
Garber, J. B., Dunkirk 1893
Garver, J. J., Indianapolis 1884
Gerrish, M. F., Seymour 1888
Grant, G. H., Richmond 1888
Green, J. W., Shelbyville 1882
Greene, Geo. R., Muncie 1893
Greenawalt, G. L., Ft. Wayne. 1883
Gregg, V. H., Connersville. 1883
Hadley, E., Indianapolis 1888
Hamilton, S. N., Connersville 1888
Hanna, L. M., Greencastle 1886
Hargrove, W. S., New Salem . . . . . .
Harper, H. F., Merom. 1876
Haworth, M. C., Noblesville 1892
Harris, R. W., New Albany. 1893
Hayden, A. M., Evansville 1886
Hayes, F. W., Indianapolis. 1888
Hays, G. C., Hillsboro 1880
Heady, W. S., Jamestown. 1893
Heath, F. C., Indianapolis 1893
Heaton, Conley, Aurora 1888
Helm, C. J., Peru 1888
Henley, A., Fairmount 1877
Henry, W. C., Aurora 1883
Hervey, J. W., Indianapolis 1885
Hess, J. N., New Marion 1888
Hewins, W. A., Chandler. 1893
Hibberd, J. F., Richmond 1864
Hickes, C., Caborns. 1890
Higgins, C. B., Peru. 1883
Hinkle, J. R., Sullivan 1888
Hodges, E. F., Indianapolis 1887
Hodges, F. J., Anderson 1891
Holton, W. M., New Harmony 1879
Holtzendorff, A. C., Plymouth 1887
Hon, U. H., Bloomington. 1888
Hood, J. C., Dana 1892
Howard, N. P. Jr., Greenfield 1880
Irwin, L. M., Lafayette 1884
Jenkins, W. O., Terre Haute 1886
Johnston, M. F., Richmond 1888
Jones, George S., Covington 1887
Keegan, C. J., Canal 1888
Keen, L. S., Laporte 1878
Kemper, G. W. H., Muncie 1883
Kennedy, T. C., Shelbyville 1888
Keiper, G. F., Lafayette 1892
King, W. R., Greenfield. 1884
Knapp, Charles, Evansville 1886
Knapp, S. O., Frankford 1884
Krausgrill, D., Wadesville 1888
Lamb, J., Aurora 1886
Lane, W. H., Angola. 1891
Lash, H. M., Indianapolis 1888
Laughlin, G. E., Orleans. 1892
Lemmon, S. W., Albion. 1887
Lewis, E. R., Indianapolis. 1887
Link, John E., Terre Haute 1877
Linvill, D. G., Columbia City 1874
Lowder, L. T., Bloomington 1890
Lower, M. O., North Manchester 1886
McCaskey, G. W., Fort Wayne 1886
McCoy, G. T., Columbus 1888
McCoy, P. Y., Evansville 1890
McCoy, W. A., Madison. 1892
McDonald, W. B., New Augusta 1890
McIntyre, C. W., New Albany 1886
McMahon, W. R., Huntingsburg 1875
McShane, J. T., Indianapolis. 1887
Mackey, G. W., Portland 1888
Martin, S. M., Greenfield. 1878
Maxwell, A., Indianapolis 1886
Meyer, J. H. W., LaPorte 1888
Mock, J. W., Covington. 1888
Moffett, E. D., Indianapolis 1890
Moffit, W. R., Lafayette 1887
Monohan, W. R., Huntingburg 1893
Montgomery, H. T., South Bend. 1883
Mooney, H. C., Laketon. 1892
Moore, J. B., Kokomo. 1892
Moore, P. G., Wabash 1883
Morris, C. C., Irvington. 1892
Morris, J. E., Liberty 1876
Mullen, A. J. Jr., Michigan City 1892
Murphy, E. New Harmony. 1884
Myers, H. K., Edinburg. 1884
Myers, W. H., Ft. Wayne 1890
Neal, W. A., Elkhart 1886
Newcomer, M. V. B., Tipton. 1892
O'Ferrall, R. M., Lafayette 1884
Oliver, J. H., Indianapolis 1888
O'Neal, L., Somerset 1883
O'Neal, Oren, Wabash 1892
Owen, A. M., Evansville 1886
Page, Lafayette, I. F., Indianapolis 1892
Pantzer, H. O., Indianapolis 1887
Patterson, A. W., Indianapolis. 1875
Pearse, S. H., Mt. Vernon. 1875
Pfaff, O. G., Indianapolis. 1888
Pierson, A., Spencer 1887
Phillips, C., Scipio. 1893
Powell, J. Z., Logansport. 1887
Ramsey, D. C., Mt. Vernon 1885
Rea, John, Newcastle. 1870
Rea, O. A., Marmont 1890
Reynard, G., Union City. 1892
Rooker, J. I., Castleton. 1888
Rosenthal, I. M., Fort Wayne 1867
Ross, J. H., Kokomo 1892
Salb, J. P., Jasper 1890
Sanders, F. E., Perryville 1893
Sawyer, F. M., South Bend 1887
Schaefer, C. R., Indianapolis 1890
Scott, J. W. C., Hecla 1888
Scott, William, Kokomo 1883
Schultz, W. J., Lebanon 1893
Sebring, D. A., Auburn. 1890
Sexton, J. C., Rushville. 1887
Shepard, S. D., Everton. 1888
Short, W. H., LaGrange. 1888
Shull, C. Q., Montpelier. 1884
Smith, A. J., Wabash 1884
Smith, C. H., Lebanon 1883
Smith, H. B., Ofio. 1893
Smith, W., Delphi. 1891
Smythe, G. C., Greencastle. 1879
Spencer, E. V., Mt. Vernon. 1886
Squires, J. W., Cherubusco. 1893
Stewart, J., Anderson. 1884
Stewart, C. S., Garrett 1892
Stockton, Sarah, Indianapolis. 1890
Stone, R. F., Indianapolis 1892
Sutcliffe, J. A., Indianapolis. 1884
Sutton, H. Harley, Aurora 1888
Swartz, D. J., Auburn. 1888
Taylor, C. A., York Centre 1892
Thompson, D. A., Indianapolis 1892
Thompson, W. N., Sullivan. 1894
Thompson, J. L., Indianapolis. 1883
Todd, L. L., Indianapolis 1885
Veneman, R. T., Cannelton 1890
Vinnedge, W. W., Lafayette. 1873
Wahl, G. F., Bremen 1888
Walker, E., Evansville 1891
Waller, W. H., Angola 1885
Webster, J. C., Lafayette 1890
Weever, J. B., Evansville. 1884
Weist, J. R., Richmond. 1876
Wetherell, R. B., Lafayette. 1887
Wherry, Mary A., Fort Wayne 1888
Wherry, W. P., Fort Wayne. 1892
White, C. A., Danville 1888
White, E. G., Lagrange 1887
Whitesell, P. P., Clarksville 1887
Williams, L., Marion 1867
Williams, T. B., Angola 1892
Wilson, A. L., Indianapolis. 1890
Wilson, J. H., Plymouth 1887
Wilson, W., Yankeetown 1893
Wishard, W. N., Indianapolis 1884
Wood, H. D., Angola 1874
Wood, F., Angola 1876
Woodburn, F. C., Indianapolis 1888
Woodburn, J. H., Indianapolis 1893
Woolen, G. V., Indianapolis. 1884
Work, J. A., Elkhart 1883
Young, S. J., Terre Haute 1877
Younkman, A. B., Bremen 1886

INDIAN TERRITORY

Berry, V., Wagner. 1893
Fortner, B. F., Vinita. 1876

IOWA

Adair, L. J., Anamosa 1883
Appleby, G. W., Bristow 1892
Baker, E. L., Indianola 1883
Baker, J. W. H., Davenport 1888
Barnes, C. E., Burlington 1891
Barnes, H. E. W., Creston 1891
Bean, J. V., Fairfield 1888
Beggs, G. W., Sioux City 1882
Berry, R. P., Clermont 1892
Bergan, A. C. Sioux City 1889
Birney, C. C., Estherville 1882
Birney, E., Greeley. 1893
Blanchard, L., Edgewood 1883
Bloodgood, Chas., Clinton. 1893
Bond, L. L., West Side 1887
Bowen, A. B., Maquoketa 1876
Bradley, Chas. C., Manchester 1890
Brooks, A. L., Audubon 1892
Brookhausen, B. E., Lansing 1882
Brookings, D. J., Woodward 1885
Brown, Caleb, Sac City 1892
Brown, H. W., Waterloo 1887
Brown, Luther, Rockford 1885
Bundy, A. D., St. Ausgar 1886
Carpenter, G. P., Cedar Rapids 1891
Carson, J., Mt. Vernon 1884
Carter, G. W., Marshalltown 1882
Chatterton, A. S. Peterson 1893
Clapp, E. F., Iowa City 1884
Clark, E. W., Grinnell 1877

Cleaves, R. L., Cherokee 1890
Coad, N. G. O., Hull 1893
Cobb, W. F., Mona 1882
Conniff, R. E., Sioux City 1893
Cottle, C. C., Marshalltown 1890
Craig, N. S., Manchester 1887
Crawford, G. E., Cedar Rapids 1887
Criley, B. H., Dallas Centre 1878
Crouse, D. W., Waterloo 1878
Cushman, R. A., Sanborn 1893
Darnell, G. D., West Union 1882
Davies, W. H., Maquoketa 1890
Dean, H. M., Muscatine 1876
Deering, A. A., Boone 1878
Divine, J. H., Sioux Rapids 1886
Dunlavy, J. C., Sioux City 1887
Eiskamp, G. H., Washington 1889
Emmert, J., Atlantic 1882
Enfield, C., Jefferson 1886
Ensign, H. D., Boone 1878
Eschbach, H. C., Albia 1887
Evans, O. E., Gowrie 1882
Ewers, H. F., Burlington 1882
Fairchild, D. S., Clinton 1882
Farnsworth, P. J., Clinton 1873
French, L., Davenport 1892
Fullerton, O. J., Waterloo 1886
Gamble, T. D., Wheatland 1882
Gardner, I. K., New Hampton 1893
Getz, H. L., Marshalltown 1882
Gilman, H. A., Mt. Pleasant 1885
Gibbon, W. H., Chariton 1885
Gorrell, J. R., Newton 1890
Griffin, C. C., Vinton 1877
Gutch, W., Albia 1876
Hackett, C. J., Le Mars 1882
Hanawalt, G. P., Des Moines 1878
Hanna, Rebecca, Red Oak 1886
Hart, R. J., Charter Oak 1882
Hazen, E. H., Des Moines 1874
Hedges, T. M., Grinnell 1884
Heustis, J. W., Dubuque 1890
Hill, G. H., Independence 1882
Hill, Nancy M., Dubuque 1887
Hiett, F. M., Red Oak 1890
Hobson, A., Hampton 1893
Hobart, A. J., Clinton 1882
Hobby, C. M., Iowa City 1884
Hoering, G. P., Walnut 1892
Holiday, J. W., Burlington 1886
Hornibrook, E., Cherokee 1885
Hutchinson, W., Des Moines 1892
Hyatt, B. F., Ottumwa 1886
Ingels, J. B., Meriden 1887
Jackson, Daniel, Pleasantville 1893
Jenkins, G. F., Keokuk 1873
Jewell, P. M., Ossian 1893
Joralemon, J. C., Toledo 1887
Johnson, C., Clinton 1893
Kegley, E. A., Cedar Rapids 1884
Kemmerer, C. T., Eldridge 1889
Kempker, J. F., Adair 1894
King, E. H., Muscatine 1884
Kirkendall, E. E., W. Burlington 1887
Knott, J. M., Sioux City 1878
Lacey, T. B., Council Bluffs 1887
LaForce, D. A., Ottumwa 1886
Langan, D., Clinton 1872
Langan, J. C., Clinton 1892
Leipziger, H. A., Burlington 1889
Lewellen, P. W., Clarinda 1886
Little, F. H., Muscatine 1892
Lewis, C. G., Ottumwa 1882
Lewis, J. R., Grinnell 1888
Littig, L. W., Iowa City 1891
Love, J. S., Springville 1877
Lytle, S. S., Iowa City 1885
McAllister, Chas., Spencer 1893
McClain, W. H., Conrad Grove 1885
McCleary, J. D., Indianola 1887
McCluer, B., Dubuque 1878
McClure, A. W., Mt. Pleasant 1882
McClure, T. G., Douds Station 1884
McCowen, Jennie, Davenport 1882
McDonald, O. P., Keokuk 1882
McDowell, G. F., Clear Lake 1892
McKenzie, H. M., Elwood 1884
McKlveer, H., Chariton 1893
McMorris, J., Belle Plaine 1893
Macrae, D., Council Bluffs 1886
Markham, H. C., Independence 1882
Martin, Jeffery, Clinton 1893
Maxwell, T. J., Keokuk 1876
Mehler, F. C., New London, ... 1887
Meredith, M., Vinton 1877
Middleton, W. D., Davenport 1887
Miller, E. C., Rockwell 1882
Minges, Geo., Dubuque 1883
Moore, Mary B., Osage 1891
Mueller, J. A., Dyersville 1887
Murphy, Garrett, N., Nora Springs 1884
Mygatt, A. S., Rolfe 1892
Newman, M. M., Edgewood 1887
Nicol, Jno. H., Villisca 1887
Osborne, M. C., Delmar 1884
Overholt, D. W., Columbus Junction 1876
Page, J. Frank, Mystic 1888
Park, Geo., Sioux City 1888
Park, W. M., Indianola 1880
Parker, C. C., Fayette 1884
Parr, T. S., Indianola 1879
Peck, Frank, L., Mt. Pleasant 1889
Philpott, J. W., Ft. Madison 1887
Pierce, S. N., Cedar Falls 1885
Powell, Chas. B., Albia 1887
Priestly, Jas. T., Des Moines 1886
Ransom, Horace B., Burlington 1877
Rawson, A. A. Corning 1884
Raymer, H. S., Cedar Rapids 1893
Reynolds, A., Clinton 1887
Reynolds, E. M., Centreville 1884
Reynolds, J. D., Creston 1887
Richards, W. O., Waterloo 1885
Riggen, John A., What Cheer 1887
Ristine, H. G., Fort Dodge 1883
Roberts, Jason, Osceola 1892
Roberts, T., St. Charles 1892
Robertson, J. S., Council Bluffs 1885
Robinson, S. E., West Union 1882
Rogers, H. S., Red Oak 1884
Rolfe, B. F., Staceyville 1882
Roome, J. S., Calmar 1884
Ruth, C. E., Keokuk 1886
Sanson, J. E., Tipton 1885
Savage, J. P., Sioux City 1888
Schooler, L., Des Moines 1887
Scroggs, J. A., Keokuk 1887
Searle, B. W., Ottumwa 1882
Seybert, F. T., Council Bluffs 1886
Sherman, E. Amelia, National 1886
Sherman, J. A., Cherokee 1886
Sherman, J. M., Renwick 1887
Sherman, W. B., Manchester 1887
Shrader, J. C., Iowa City 1873
Shuell, T. J., Parnell 1887
Skinner, G. R., Cedar Rapids 1891
Sloan, M. G., Dexter 1885
Smead, C. C., Newton 1890
Smith, C. H., Mason City 1882
Smith, E. R., Toledo 1886
Smith, J. W., Charles City 1873
Smouse, D. W., Des Moines 1885
Spilman, S. A., Ottumwa 1882
Staunton, T. P., Chariton 1890
Staples, G. M., Dubuque 1872
Tedron, J. B., Williams 1891
Thomas, F. S., Council Bluffs 1886
Thornton, J. H., Lansing 1890
Townsend, D. J., Lohrville 1890
Treat, J. A., Stuart 1887
Tuttle, Mary B., Burlington 1891
Udell, C. N., Blakesburg 1885
Vaart, S. Van Der, Cedar Falls 1892
Vail, A. M., Rock Rapids 1887
Volding, M. N., Independence 1892
Waggener, E. A., Burlington 1886
Watson, Wm., Dubuque 1876
Welch, I. L., Humboldt 1883
Weir, F. A., Jesup 1882
Whitney, H. C., Burlington 1893
Wick, D. M., Cedar Falls 1886
Will, F. J., Eagle Grove 1886
Williams, R. R., Manning 1884
Witte, Max E., Mt. Pleasant 2885
Worley, J., Belle Plaine 1882
Wright, A. L., Carroll 1882
Young, H. B., Burlington 1882
Young, J. W., Bloomfield 1884

KANSAS

Ballou, J. H., Haven 1886
Cunkle, L. J., Madison 1883
Daily, F. M., Beloit 1886
Daugherty, P., Junction City 1890
Davis, E. W., Wichita 1880
Day, M. G., Wichita 1892
Dewees, Wm. B., Salina 1890
Dill n. J. Eureka 1886
Emerson, George, Winfield 1886
Felty, J. U., Abilene 1893
Gardiner, C., Emporia 1883
Hall, Sarah C., Ft. Scott 1892
Harvey, Z. T., Council Grove 1889
Hazlett, E. E., Abilene 1893
Hissen, H. Z., Ellsworth 1892
Jacobs, L. D., Emporia 1883
Lanphear, S. E. Hartford 1886
Leslie, C. F., Clyde 1880
Lyman, L. J., Manhattan 1892
McCarthy, T. L., Dodge City 1892
McCully, W. A., Independence 1887
McNary, O. C., Nat'l Military Home 1890
Minney, John E., Topeka 1886
Mottram, C. V., Lawrence 1873
Potter, J. T., Mt. Hope 1892
Reynolds, L., Horton 1892
Smolt, C. F., Nickerson, ... 1883
Stephens, N. A., Wichita 1892
Stewart, J. P., Clay Center 1892
Taylor, N. J., Berryton 1892
Tefft, H. K., Topeka 1886
VanEman, W. J., Leavenworth 1885
Ward, M. B., Topeka 1890

KENTUCKY

Adamson, H. K., Maysville 1891
Bailey, Wm., Louisville 1886
Baughman, J. N., Flat Lick 1892
Barrow, David, Lexington 1890
Beeler, G., Clinton 1885
Blaine, A. D., Dry Ridge 1892
Boyd, Franklin, Paducah 1890
Brooks, J. G., Paducah 1882
Brown, H., Hustonville 1884
Butt, Albert L., Franklin 1890
Carpenter, J. G., Stanford 1888
Cartledge, A. M., Louisville 1892
Cartwright, H. P., Bowling Green 1890
Cheatham, W., Louisville 1886
Clarke, Frank H., Lexington 1886
Coleman, B. L., Lexington 1889
Coleman, W. W., Mt. Washington 1879
Coons, T. C., Chilesburg 1892
Cowan, H. J., Danville 1888
Cowgill, W. M., Paducah 1890
Creel, M. P., Central City 1887
Crouch, M. J., Union 1892
Dabney, S. G., Louisville 1891
Dixon, A., Henderson 1888
Dunlap, F., Danville 1885
Farris, Alex. A., Hickman 1890
Fisher, S. K., Milton 1892
Grant, H. H., Louisville 1886
Greenley, T. B., Meadow Lawn 1877
Griffiths, G. W., Louisville 1887
Hampton, S. E., Milton 1890
Hanna, W. M., Henderson 1873
Hasemeier, J. A., Louisville 1892
Hodge, J. A. Henderson 1859
Holloway, S. W., Louisville 1892
Howard, R. J., Pryorsburg 1877
Ingram, Julia, Louisville 1888
Jordan, W. A., Clinton 1887
Keen, W. C., Burkesville 1889
Kelly, C. W., Louisville 1892
Kelley, E., Lebanon 1888
Kinnard, J. B., Lancaster 1892
Larrabee, John A., Louisville 1890
Lassing, H. C., Union 1887
Luten, J. R., Fulton 1860
Luten, S. W., Cayce 1886
McChord, R. C., Lebanon 1885
McCormack, J. N., Bowling Green 1884
McDowell, H., Cynthiana 1885
McKeel, P. W., Wingo 1887
McMasters, D. H., Pryorsburg 1890
McMurtry, L. S., Louisville 1882
McNary, H. F., Princeton 1875
Mann, Charles, Nicholasville 1873
Marvin, J. B., Louisville 1886
Mathews, J. M., Louisville 1886
Morris, N. G., Fulton 1890
Norment, H. T., Anthoston 1892
O'Neal, W. S., Lancaster 1892
Orr, Alex, Butler 1892
Peck, J. M., Arlington 1890
Perkins, George, Somerset 1875
Peyton, J. F., Stanford 1888
Price, A. D., Harrodsburg 1884
Price, J. L., Sherman 1888
Reddick, Jas. I., Paducah 1893
Reynolds, Dudley S., Louisville 1872
Richardson, Edward, Louisville 1874
Richmond, W. W., Clinton 1885
Rodman, W. L., Louisville 1892
Samuel, F. W., Louisville 1892
Satterwhite, T. P., Louisville 1893
Scarborough, J. R., Spring Hill 1890
Seargeant, A., Hopkinsville 1886
Skillman, H. M., Lexington 1888
Smith, A. W., Richmond 1888
Stevens, E. A., Mayfield 1890
Stuckey, T. H., Louisville 1890
Thomas, J. P., Hopkinsville 1875
Thompson, Pinckney, Henderson 1892
Vance, A. Morgan, Louisville 1892
Violette, J. D., Williamstown 1888
Wathen, W. H., Louisville 1883
Wiley, E. M., Harrodsburg 1888
Williams, Jno. M., Louisville 1893
Willis, S. W., Jasper 1888
Wilson, John M., Williamstown 1888

LOUISIANA

Allen, Thomas J., Shreveport 1885
Archinard, P. E., New Orleans 1885
Austin, W. G., Quarantine 1885
Billen, D. H., Shreveport 1885
Chaillé, S. E., New Orleans 1879
Czarnowski, O., New Orleans 1885
Dickson, W. L., Rush Point 1884
Egan, J. C., Shreveport 1877
Elliot, J. B., New Orleans 1892
Formento, F., New Orleans 1890
Fox, D. R., Jesuits' Bend 1885
Friedrich, G. J., New Orleans 1884
Gazzo, J. B. C., Thibodeaux 1884
Haas, W. D., Haasville 1892
Harrell, R. F., Russton 1894
Henry, S. L., New Orleans 1878
Jones, Joseph, New Orleans 1885
McShane, Augustus, New Orleans 1893
Matas, R., New Orleans 1885
Monette, G. N., New Orleans 1884
Munday, J. C., Lake Charles 1892
Owens, C. D., La Compte 1885
Parham, F. W., New Orleans 1886
Pugh, B., Napoleonville 1885
Souchon, E., New Orleans 1885
Stewart, C. S., Amite City 1892
Sutherlin, W. K., Mansfield 1889
Seydewitz, P. von, New Orleans 1885
White, W. D., Abbeville 1885

MAINE

Bradford, E. F., Mechanics Falls 1892
Cobb, Moses B., Biddeford 1892
Dunn, B. F., Portland 1891
Estabrook, T. L., Rockland 1879
Ferguson, F. B., Deer Isle 1893
Foster, Chas. W., Woodford 1892
Foster, T. A., Portland 1882

Fuller, A. J., Bath 1878
Garcelon, A., Lewiston 1873
Gordon, S. C., Portland 1883
Hennessey, D., Bangor 1892
Hersom, Jane L., Portland 1893
Hitchcock, F. E., Rockland 1880
Hunter, Samuel B., Machias 1889
Judkins, E. H., Portland 1894
Laughton, S., Bangor 1876
Maybury, W. J., Saco 1895
Neal, J. H., Sanford 1892
Parsons, W. H., Damariscotta 1893
Peaslee, C. A., Wiscasset 1891
Robinson, D. A., Bangor 1892
Small, J. M., Lewiston 1880
Smith, A. R. G., N. Whitefield 1892
Snow, A. P., Winthrop 1876
Thayer, F. C., Waterville 1884
Weeks, S. H., Portland 1876

MARYLAND

Anderson, E., Rockville 1891
Ashby, T. A., Baltimore 1884
Bevan, C. F., Baltimore 1884
Biedler, H. H., Baltimore 1889
Bombaugh, C. C., Baltimore 1884
Chamberlain, J. E. M., Easton 1880
Chambers, J. W, Baltimore 1884
Chancellor, C. W., Baltimore 1891
Chisolm, J. J., Baltimore 1880
Cooke, T., Baltimore 1880
Dunning, Fred, Easton 1893
Eastman, L. M., Baltimore 1877
Friedenwald, A., Baltimore 1884
Gardner, W. S., Baltimore 1891
Gibbons, J. E., Baltimore 1884
Hammett, S. B., Bowens 1892
Hartman, J. H., Baltimore 1884
Humrichouse, J. W., Hagerstown 1892
Jacobs, C. C., Frostburg 1892
Kelley, H. A., Baltimore 1888
Latimer, T. S., Baltimore 1884
McComas, J. L., Oakland 1889
Macgill, C. G. W., Catonsville 1884
Mackenzie, J. N., Baltimore 1884
Martinet, J. F., Baltimore 1891
Morris, John, Baltimore 1868
Neff, J., Baltimore 1884
Opie, T., Baltimore 1884
Osler, W., Baltimore 1889
Powell, A. H., Baltimore 1881
Reynolds, H. T., Baltimore 1875
Reynolds, George B., Baltimore 1889
Riggs, G. H., St. Denis 1893
Rohé, G. H., Catonsville 1884
Roman, S. T., Conowingo 1884
Rowe, M., Deal's Island 1891
Sellman, W. A. B., Baltimore 1880
Skilling, M. Q., Lonaconing 1888
Smith, A. P., Baltimore 1883
Smith, W. F., Baltimore 1891
Stewart, Jas., Baltimore . . . . . .
Stoner, Geo. W., Baltimore 1892
Streett, D., Baltimore 1890
Taneyhill, G. Lane, Baltimore 1884
Thomas, G., Baltimore 1891
Tiffany, L. McL., Baltimore 1891
Uhler, J. R., Baltimore 1876
Williams, Arthur, Elk Ridge 1889

MASSACHUSETTS

Abbott, S. W., Wakefield 1889
Adams, J. F. A., Pittsfield 1881
Ames, R. P. M., Springfield 1892
Andrews, Robert R., Cambridge 1889
Andrews, W. H., Springfield 1890
Barrett, W. M., Westborough 1880
Bass, William, Lowell 1878
Baxter, E. K., Boston 1893
Belt, Charles B., Boston 1888
Bemis, Merrick, Worcester 1892
Blake, C. A. Bridgewater 1892
Blodgett, Albert G., West Brookfield 1889
Bowen, C. W., Westfield 1892
Bowen, S., Boston 1892
Bradford, E. H., Boston 1888
Briggs, E. C., Boston 1883
Brown, Wesley E., Gilbertsville 1887
Bullard, W. M., Boston 1883
Bush, J. F., Boston 1884
Bychower, Victor, Boston 1892
Calkins, Marshall, Springfield 1866
Carolin, W. T., Lowell 1884
Chamberlain, C. N., Lawrence 1876
Chamberlain, M. L., Boston 1880
Channing, W., Brookline 1880
Chenery, E., Boston 1885
Clark, Aug. P., Cambridgeport 1880
Cornish, A., New Bedford 1887
Cottrell, S. P., Boston 1889
Cowles, Edward, Somerville 1878
Cunningham, Thos. E., Cambridge 1894
Davis, G. W., Holyoke 1891
Davis, Wesley, Worcester 1889
Davidson, K. M., Boston 1892
Dearing, T. Haven, Braintree 1887
Dunbar, E. F., Boston 1891
Dwelly, J., Fall River 1884
Eastman, Chas. A., Hudson 1890
Edes, Robt. T., Jamaica Plains 1889
Fisk, Cyrus M., Lowell 1889
French, Geo. M., Malden 1889
Fuller, G. E., Monson 1892
Gage, Homer, Worcester 1894
Galligar, E. F., Taunton 1889
Garland, George M., Boston 1885
Gay, George W., Boston 1889
Gavin, M. F., Boston 1884
Giddings, T., Housatonic 1876
Gerry, E. P., Suffolk 1889
Gilbert, J. H., Quincy 1876
Goodman, S., Boston 1892
Gordon, J. A., Quincy 1883
Gould, Clark S., Norwood 1893
Graham, Douglas, Boston 1890
Hubbard, F. A., Taunton 1889
Hunt, David, Boston 1880
Hyde, G. S., Boston 1865
Irish, J. C., Lowell 1878
Irwin, Fairfax, Boston . . . . . .
Jackson, J. H., Fall River 1884
Janes, D. W., Boston 1877
Jefferson, H. P., Lowell 1884
Jones, Geo. W., Cambridgeport 1892
Johnson, John W., Boston 1887
Kingsbury, A. D., Boston 1893
Knowlton, Chas. D., Boston 1894
Lancaster, W. B., Wellesley Hill 1892
Leavitt, W. W., Pittsfield 1891
Louis, Isaac, Boston 1889
Marcy, H. O., Boston 1876
Martin, G. A., Franklin 1889
Maynard, John P., Dedham 1889
Mercer, W. M., Pittsfield 1884
Miner, D. W., Ware 1878
Nichols, A. H., Boston 1890
Norris, A. L., Cambridgeport 1876
Parsons, F. S., Northampton 1889
Paddock, F. K. Pittsfield 1880
Parker, M. G., Lowell 1877
Parsons, F. S., Northampton 1889
Pattee, A. F., Boston 1884
Pinkham, Jos. G., Lynn 1889
Porter, Chas. B., Boston 1889
Presbrey, Silas D., Taunton 1889
Putnam, J. M., Chelsea 1880
Ransom, N. M., Somerville 1889
Rice, J. Marcus, Worcester 1889
Robinson, W. S., Taunton 1880
Rotch, T. M., Boston 1881
Ruddick, W. H., S. Boston 1894
Sawyer, F. A., Wareham 1873
Shackford, C. H., Chelsea 1880
Shattuck, Frederick C., Boston 1888
Sinclair, A. D., Boston 1885
Standish, Miles, Boston 1889
Swift, L. C., Pittsfield 1886
Thompson, G. N., Boston 1889
Thompson, R. J., Fall River 1894
Tobey, G. L., Lancaster 1891
Townsend, George J., South Natick 1870
Tracy, Edward A., Boston 1893
Tuttle, A. H., Cambridge 1893
Vaughan, Chas. E., Cambridge 1884
Vermyne, J. J. B., New Bedford 1880
Walcott, Henry P., Cambridge 1888
Warren, Chas. E., Boston 1884
Warren, John C., Boston 1889
Webber, F. W., Newton 1883
White, H. C., East Somerville 1884
Williams, J. L., Boston 1881
Woodbridge, L. D., Williamstown 1888
Woods, J. Henry, Brookline 1889

MICHIGAN

Aaron, C. D., Detroit 1892
Albright, Joseph, Grand Rapids 1888
Alvord, A. W., Battle Creek 1882
Anderson, W. S., Detroit 1892
Armstrong, O. S., Detroit 1891
Avery, John, Greenville 1885
Bachman, N. E., Stanton 1883
Baker Chas. H., Bay City 1892
Baker, H. B., Lansing 1874
Barnes, H. B., Ionia 1851
Barnes, W. L., Ionia 1892
Beagle, L. N., Flint 1892
Belknap, S., Niles 1886
Bell, J., Benton Harbor 1874
Bennett, E. O., Wayne 1884
Berry, H. G., Romeo 1892
Bigelow, C. P., Grand Rapids 1892
Bigham, Earle, Grand Rapids 1892
Bliss, Lyman W., Saginaw 1874
Booth, C. E., Escanaba 1893
Boise, Eugene, Grand Rapids 1880
Book, J. B., Detroit 1870
Bosman, J. W., Kalamazoo 1892
Brady, M., Detroit 1892
Brady, John, Grand Rapids 1874
Bradley, J. B., Eaton Rapids 1892
Brainard, I. M., Alma 1890
Brand, W. J., Detroit 1892
Breakey, W. F., Ann Arbor 1877
Briggs, Thomas H., Battle Creek 1888
Brodie, B. P., Detroit 1892
Brown, F. H., Ann Arbor 1892
Brumme, Carl, Detroit 1874
Buckham, J. N., Flint 1883
Bulson, A. E., Jackson 1893
Burr, C. B., Pontiac 1892
Burtless, W. E., St. Clair 1884
Campbell, D. M., Detroit 1892
Campbell, O. B., Ovid 1892
Campbell, D. S., Detroit 1892
Carnes, G. D., South Haven 1892
Carrier, A. E., Detroit 1892
Carrow, F., Ann Arbor 1891
Carstens, J. H., Detroit 1876
Case, H. R., Grand Blanc 1884
Catlin, S., Tecumseh 1889
Chamberlain, G. V., Flint 1892
Chapin, A. B., Mt. Clemens 1892
Chapin, E. B., Grass Lake 1889
Chapman, E. A., Walled Lake 1892
Chapman, H. S., Pontiac 1892
Chittlick, W. R., Detroit 1892
Christian, E. P., Wyandotte 1876
Clarke, J. E., Detroit 1892
Cleland, Henry A., Detroit 1892
Cleland, J. Jr., Detroit 1892
Coller, E. H., Battle Creek 1892
Collier, James M., Plymouth 1892
Connery, W. S., East Saginaw 1893
Connor, L., Detroit 1874
Cook, J. M., Muskegon 1893
Corcoran, J. S., Ubly 1892
Corcoran, J. P., Detroit 1892
Cowles, A. G., Durand 1892
Cree, W. J., Detroit 1891
Crouch, G. W. Shaftsbury 1892
Crotser, L. S., Edmore 1892
Daken, D. L., Detroit 1892
Daray, B., Mayville 1892
Darling, C. G., Ann Arbor 1892
Decamp, Wm. H., Grand Rapids 1867
Dellenbaugh, C. C., Portland 1877
De Vere, J. A., Grand Rapids 1892
Dock, Geo., Ann Arbor 1890
Dodge, W. T., Big Rapids 1892
Dougan, W. T., Niles 1889
Douglas, Chas., Detroit 1892
Drake, A. P., Hastings 1883
Duffield, George, Detroit 1892
Duffield, S. P., Dearborn 1883
Dunlap, Harley M., Battle Creek 1888
Earle, G. W., Hermansville 1878
Eaton, Edwin, Hudson 1892
Edie, T. O., Grand Rapids 1892
Elliott, J. M., Hickory Corners 1881
Elliott, J. L., Bay City 1892
Emerson, J. E. Detroit 1887
Fairbank, H. C., Flint 1873
Finlayson, A. N., Detroit 1893
Flinterman, John, Detroit 1892
Florentine, F. B., E. Saginaw 1886
Forsyth, A. H., Lake View 1893
Frank, Chas. P., Detroit 1883
French, S. S., Battle Creek 1877
Frothingham, G. E., Detroit 1874
Fuller, Wm., Grand Rapids 1892
Gailey, J. K., Detroit 1892
Gardner, E. D., Richfield 1892
Garwood, Alonzo, Cassopolis 1887
Gamber, W. P., Stanton 1894
Gerry, Harriet A., Detroit 1892
Gibbs, Henneage, Ann Arbor 1892
Gillan, S. E., St. Johns 1892
Gilman, R. W., Detroit 1892
Graves, Schuyler, Grand Rapids 1892
Gray, M. W., Pontiac 1892
Greene, D. M., Grand Rapids 1892
Greene, G. H., Marshall 1886
Greenshields, Wm., Romeo 1874
Griswold, J. B., Grand Rapids 1876
Griswold, L. S., Big Rapids 1892
Groner, F. J., Grand Rapids 1884
Grover, Fred, Fraser 1892
Guillot, H. C., Pontiac 1892
Gunsalus, Kenneth, Detroit 1892
Hartz, H. J., Detroit 1893
Haughey, W. H., Battle Creek 1892
Hazelwood, A., Grand Rapids 1874
Hebard, E. A., Grand Rapids 1884
Henderson, Edw., Detroit 1892
Herdman, W. J. Ann Arbor 1883
Hitchcock, C. W. Detroit 1891
Hough, F. S., Detroit 1892
Huber, C. G., Ann Arbor 1890
Hume, A. M., Owasso 1892
Huson, Florence, Detroit 1892
Imrie, A. W., Detroit 1892
Inglis, David, Detroit 1890
Ingram, A. R., Argentine 1892
Irwin, J. L., Detroit 1892
Ives, Augustus, Detroit 1892
Jenkins, J. F., Tecumseh 1883
Jenks, E. W., Detroit 1863
Jennings, Charles G., Detroit 1888
Jensen, P. C., Manistee 1891
Johnson, G. K., Grand Rapids 1873
Johnston, R., Milfred 1892
Kaiser, A., Detroit 1876
Keating, J. W., Ann Arbor 1892
Kellogg, J. H., Battle Creek 1882
Kiefer, Herman, Detroit 1890
Kimball, Amie G. B., Jackson 1878
Kimball, A. H., Battle Creek 1889
Kirkland, R. J., Grand Rapids 1892
Kremers, H., Holland 1892
La Ferte, Daniel, Detroit 1888
La Crone, A., Kalamazoo 1892
Lamb, E. E., Republic 1893
Langlois, T. J., Wyandotte 1874
Laraway, G. L., Emery 1892
Lathrop, Henry K., Royal Oak 1884
LeBaron, R. Pontiac 1887
Law, D. H., Detroit 1892
Lawrence, R. R., Hartford 1892
Lewis, C. H., Jackson 1877
Lindsay, Kate, Battle Creek 1886
Longyear, H. W., Detroit 1892

Lowry, G. W., Hastings 1887
Lupinsky, H., Grand Rapids 1892
Lyster, H. F., Detroit 1881
McCarroll, Wm., Pontiac 1892
McColl, H., Lapeer 1874
McDonnell, Otto, Lowell 1892
McGraw, T. A., Detroit 1874
McHench, W. J., Brighton 1883
McLean, Angus, Detroit 1892
McLeay, D. D., Prairieville 1883
McPherson, J. A., Grand Rapids 1892
Maclean, D., Detroit 1875
MacRae, John, Central Mine 1890
Manton, W. P., Detroit 1892
Maire, Lewis E., Detroit 1887
Mann, F. W., Detroit 1891
Marsh, W. C., Quincy 1892
Martin, C. M., Belding 1883
Martin, J. N., Ann Arbor 1892
Mason, W. F., Berrios Springs 1892
Metcalf, W. F., Detroit 1890
Mills, H. R., Port Huron 1874
Minar, E. G., Bay City 1892
Miner, S. G., Detroit 1891
Moran, G. W., Detroit 1893
Moore, M. T., Richmond 1893
Mulheron, J. J., Detroit 1887
Munson, J. D., Traverse City 1878
Murray, R. N., Flint 1876
Myers, F. C., Kalamazoo 1892
Nancred, C. B., Ann Arbor 1891
Newark, W. E., Charlotte 1892
Newell, James, Detroit 1892
Nichols, A. W., Greenville 1883
North, L. G., Tecumseh 1894
North, J. V., Jackson 1874
Odell, R. W., Detroit 1892
O'Donnell, D. H., Detroit 1892
Osborn, H. B., Kalamazoo 1876
Ostrom, S. C., Saginaw 1892
Oven, A. G., Petoskey 1892
Palmer, E. A., Hartford 1883
Parker, Delos L., Detroit 1888
Patterson, P. D., Charlotte 1878
Pease, George C., Fulton 1888
Pelletier, L. A., Manistee 1892
Perkins, J., Owasso 1882
Peterson, R., Grand Rapids 1892
Pettyjohn, E. S., Alma 1893
Phillips, H. H., Vandalia 1882
Phippen, S. S. C., Owasso 1892
Plessner, Lewis, Bay City 1893
Pollard, J. W., St. Johns 1893
Pomeroy, E. H., Calumet 1892
Porter, J. A., Brooklyn 1892
Pratt, Foster, Kalamazoo 1874
Pressy, A. J., Grand Rapids 1892
Ransier, S. J., Detroit 1892
Renaud, G. F., Detroit 1892
Richmond, P. E., Mt. Pleasant 1887
Ricker, A. W., Fenton 1892
Robbins, F. W., Detroit 1892
Robinson, Wm. J., Lapeer 1888
Rogers, A. S., Vassar 1892
Roller, L. A., Grand Rapids 1883
Root, P. S., Monroe 1892
Rose, G. L., Decatur 1881
Rutherford, F. A., Grand Rapids 1890
Ryno, W., Benton Harbor 1892
Sabin, M., Centerville 1875
Sample, C. H., East Saginaw 1893
Schaberg, H. H., Kalamazoo 1887
Schon, E., Detroit 1892
Schurtz, Perry, Grand Rapids 1883
Scurr, W. R., Detroit 1892
Seeley, A. L., Mayville 1892
Seely, Oscar F., Climax 1887
Shillito, Fred, Marcellus 1890
Shoemaker, J. S., New Lothrop 1893
Shurley, E. L., Detroit 1874
Simpson, Irwin, Kalamazoo 1887
Small, S. I., Saginaw 1892
Smart, W. N., Muskegon 1892
Smith, E. B., Detroit 1892
Smith, Eugene, Detroit 1873
Smith, H. E., Detroit 1874
Snook, J. M., Kalamazoo 1880
Southworth, C. T., Monroe 1889
Spalding, F. A., Detroit 1892
Spencer, C. E., Fort Gratiot 1874
Spencer, R. H., Grand Rapids 1892
Sprague, Wm. B., Detroit 1888
Stealey, A. R., Charlotte 1893
Steinbrecher, A. H., Detroit 1892
Stockwell, C. B., Port Huron 1887
Stone, D. F., Bay City 1893
Strong, E. B., Byron Center 1893
Swaney, H. N., Grand Ledge 1893
Tappey, E. T., Detroit 1892
Taylor D. B., Pontiac 1892
Taylor, J. E., Ovid 1892
Thomason, H. D., Albion 1884
Thüner, A., Detroit 1892
Tibbals, F. B., Detroit 1892
Topping, G. W., DeWitt 1872
Tupper, Horace, Bay City 1893
Turner, H. J., Wayland 1893
Van der Laan, J., Muskegon 1887
Van Zwaluwenberg, C., Kalamazoo 1892
Vaughan, O. M., Covert 1887
Vaughan, V. C., Ann Arbor 1883
Voorhees, G. V., Detroit 1876
Wade, D. W. C., Holly 1887
Walker, H. O., Detroit 1880
Walker, Robt. S., Beacon 1893
Walter, H., Eaton Rapids 1884
Wanty, Emma N., Grand Rapids 1893
Ward, W. E., Fenton 1887
Welsh, D. E., Grand Rapids 1884
Whalen, M. E., Paw Paw 1892
White, John E., Clinton 1892
Wilkens, S. M., Eaton Rapids 1892
Williams, G. S., Muskegon 1893
Williams, H., East Saginaw 1883
Willson, J. C., Flint 1892
Wilson, W. J., Detroit 1892
Winter, James A., Detroit 1892
Wood, William, Grand Rapids 1892
Work, S. A., Vandalia 1892
Wyman, Hal C., Detroit 1878
Yates, Albert, Washington 1883
Yates, James, Roseville 1890
Young, W. H., Nashville 1892
Young, W. G., St. Ignace 1893

MINNESOTA

Adams, A. S., Rochester 1893
Adams, W. T., Elgin 1892
Allport, Frank, Minneapolis 1893
Ancker, A. B., St. Paul 1891
Baker, J. F., St. Paul 1882
Beebe, L., St. Cloud 1882
Blackmer, F. A., Albert Lea 1884
Brooks, D. F., St. Paul 1876
Chamberlain, W. A., St. Charles 1893
Chilton, E. Y., Howard Lake 1886
Conley, A. T., Cannon Falls 1883
Courtney, Walter, Brainerd 1892
Dunsmoor, F. A., Minneapolis 1882
Eitel, G. G., Minneapolis 1891
Ellis, S. A., Staples 1892
Ferro, C. M., Tracy 1882
Fliesburg, Oscar A., St. Paul 1892
Flinn, W. D., Red Wood Falls 1883
Fulton, J. F., St. Paul 1883
Geer, E. F., St Paul 1892
Giddings, A. N., Anoka 1884
Gilman, A. O., St. Cloud 1882
Green, C. L., St. Paul 1894
Gronwald, C., Norway P. O. 1889
Hand, W. R., Kasota 1892
Hewitt, Charles N., Red Wing 1882
Hill, C., Pine Island 1882
Hobday, W. A., Duluth 1883
Huntoon, A. F., West Duluth 1886
Jones, D. N., Gaylord 1892
Jones, Talbot, St. Paul 1888
Keyes, E. D., Winona 1892
Kimball, H. H., Minneapolis 1886
Little, J. W., Minneapolis 1887
Mayo, W. J., Rochester 1892
McEwan, S. W., Alexander 1883
McGaughey, J. B., Winona 1872
McLaren, A., St. Paul 1887
Millard, P. H., St. Paul 1881
Mulholland, J. F., Jordan 1892
Noyes, A. A., Minneapolis 1874
Ohage, J., St. Paul 1887
Pine, O. S., St. Paul 1882
Phelps, R. M., Rochester 1893
Ranson, S. W., Dodge Center 1882
Rosser, J. C., Grand Rapids 1882
Schadle, J. E., St. Paul 1889
Scott, J. W., St. Charles 1890
Senkler, A. E., St. Paul 1886
Staples, Franklin, Winona 1871
Steen, A. H., Cottage Grove 1882
Stinchfield, A. W., Rochester 1875
Stone, A. J., St. Paul 1881
Sudduth, W. N., Minneapolis 1889
Taylor, H. L., St. St. Paul . . . . . .
Tomlinson, A. A., St. Peter 1892
Warner, C. F., Mankato 1882
Wheaton, C. A., St. Paul 1882
Whittemore, N. K., Elk River 1884
Witherstine, H. H., Rochester 1887

MISSISSIPPI

Beadles, E. St. Clair, Water Valley 1892
Borroum, A. J., Corinth 1892
Crowther, E. F., Vicksburg 1892
Ewing, C. C., Aberdeen 1879
Fullilove, F. W., Vaiden 1887
Gant, H. A., Water Valley 1890
Guice, N. L., Natchez 1884
Hall, J. C., Anguilla 1877
Henderson, C. R., Deasonville 1883
Howard, R. E., Durant 1880
Jones, Paul T., Corinth 1892
Kittrell, B. F., Black Hawk 1875
Moore, J. P., Yazoo City 1869
Redus, W. D., Port Gibson 1893
Rowland, P. W., Coffeeville 1886
Sanford, W. B., Corinth 1890
Shackelford, J. A., Greenville 1883
Taylor, J. M., Corinth 1873
Taylor, W. A., Booneville 1879
Vaughan, B. W., Columbus 1872
Weissinger, W. S., Hernando 1891

MISSOURI

Allen, J. M., Liberty 1886
Altee, W. S., Olean 1886
Barck, Carl, St. Louis 1893
Barker, A., Charleston 1886
Barnes, A. S., St. Louis 1891
Berghoff, J. T., St. Joseph 1886
Block, Jacob, Kansas City 1888
Bock, A. F., St. Louis 1886
Bogie, M. A., Kansas City 1882
Bond, Y. H., St. Louis 1886
Borck, E. St. Louis 1881
Bottom, M., Breckenridge 1885
Boulware, T. C., Butler 1885
Brainerd, B. F., Kansas City 1890
Bremer, L., St. Louis 1886
Briggs, Waldo, St. Louis 1890
Brokaw, A. V. L., St. Louis 1891
Bronson, I. T., Sedalia 1887
Broome, Geo. W., St. Louis 1886
Brown, Tinsley, Hamilton 1885
Burchard, Easton, Kansas City 1890
Campbell, J. F., Callao 1886
Carpenter, S. F., St. Joseph 1890
Catheart, Charles P., Kansas City 1887
Cave, E. S., Mexico 1886
Chancellor, Eust., St. Louis 1887
Chapman, A. W., Charleston 1890
Coffee, J. Turner, Steelville 1878
Cordier, A. H., Kansas City 1888
Crow, A. M., Kansas City 1887
Curtman, Charles O., St. Louis 1873
Dalton, H. C., St. Louis 1887
Dean, D. V., St. Louis 1873
Delaney, J. O. F., St. Louis 1880
DeVilbiss, Frank, Spring Garden 1891
Dinney, Z. C., Mt. Vernon 1886
Doyle, T. H., St. Joseph 1878
Drake, N. A., Kansas City 1893
Ducker, J. O. Louisiana 1893
Duncan, J. H., Kansas City . . . . . .
Engelmann, George J., St. Louis 1876
Evans, E. C., Sedalia 1886
Evans, W. H., Sedalia 1880
Finley, R. H., Deerfield 1893
Foreman, J. M., Jonesburg 1873
Fry, Frank R., St. Louis 1887
Funkhouser, R. M., St. Louis 1884
Fulton, A., St. Louis 1891
Furney, E. E., St. Louis 1886
Gant, J. O. K., Plattsburg 1886
Gehrung, E. C., St. Louis 1886
Geiger, Jacob, St. Joseph 1888
Glasgow, Frank A., St. Louis 1886
Goben, G. A., Kirksville 1886
Godbey, W., Salem 1886
Goodrich, C. F., New Haven 1886
Gore, David C., Marshall 1886
Graham, A. W., Holstein 1886
Gregory, E. H., St. Louis 1872
Griffith, J. D., Kansas City 1886
Grindon, Joseph, St. Louis 1893
Griswold, S. C., New Haven 1886
Guhman, Nicholas, St. Louis 1886
Hall, C. Lester, Kansas City 1892
Hall, Jos. R., Marshall 1893
Hall, L. T., Fulton 1885
Halley, George, Kansas City 1878
Hamilton, George, Auxvasse 1882
Hauck, E. F., St., Louis 1880
Hawkins, A. S., Monett 1886
Henderson, R. T., Jackson 1880
Hickman, Henry, St. Louis 1887
Highsmith, G. R., Carrollton 1887
Hill, R. J., St. Louis 1884
Hubbard, J. D., Versailles 1890
Hughes, C. H., St. Louis 1880
Hypes, B. M., St. Louis 1885
Irwin, T., Moberly 1884
Isbell, J., Washington 1886
Jackson, T. B., Unionville 1886
Kier, Wm. F., St. Louis 1886
Kessler, S. F., St. Joseph 1892
King, Willis P., Kansas City 1884
Kolbenheyer, Fred., St. Louis 1886
Kuhn, D., St. Louis 1886
Lanphear, Emory, Kansas City 1880
Leeper, C. C., Braymer 1885
Lemoine, E. S., St. Louis 1886
Leonard, H. O., Kansas City 1887
Lewis, B., St. Louis 1890
Lewis, E. R., Kansas City 1885
Loeb, H. W., St. Louis 1892
Logan, J. E., Kansas City 1886
Love, I. N., St. Louis 1883
McCandless, W. A., St. Louis 1886
McClure, J., St. Louis 1886
McIntyre, J. H., St. Louis 1873
Manning, D. J., Marshall 1893
Marsh, J. T., Liberty 1877
Mayger, John, St. Louis 1886
Melsenbach, A. H., St. Louis 1886
Metcalf, W. A., Steelville 1883
Middlekamp, H. H., Warrenton 1886
Miller, A. B., Macon 1886
Miller, George W., Joplin 1885
Miller, John J., St. Louis 1885
Mitchell, D. L., Cassville 1885
Mitchell, W. F., Lancaster 1886
Mooney, F. B., St. Louis 1886
Mosher, G. C., Kansas City 1890
Mudd, H. H., St. Louis 1873
Mulhall, J. C., St. Louis 1886
Murrell, T. E., St. Louis 1887
Norton, J. J., Monroe City 1886
Ohmann-Dumesnil, A. H., St. Louis 1880
O'Reilly, P. S., St. Louis 1873
Outten, W. B., St. Louis 1873
Overstreet, W. C., Sedalia 1886
Owen, T. W. C., Newburg 1891
Pearson, John S., Louisiana 1886
Pollak, S., St. Louis 1882

Pollmann, L. P., St. Louis 1886
Porter, David R., Kansas City 1888
Porter, W., St. Louis 1882
Post, M. H., St. Louis 1886
Powers, E. M., St. Louis 1886
Prewitt, T. F., St. Louis 1882
Prichard, J. B., St. Louis 1890
Redman, Spence, Platte City. 1885
Ridge, Isaac M., Kansas City 1890
Rieger, J. H., Kansas City 1886
Riggs, T. S. Providence 1886
Ring, Frank, St. Louis 1892
Rohlfing, C. G., St. Louis 1886
Rowe, J. M., Charleston 1886
Rowe, Samuel B., St. Louis 1886
Russell, J. W., Longtown 1894
Schauffler, E. W., Kansas City 1880
Schlosstein, A., St. Louis 1886
Shankland, W. M., Clinton 1892
Sharp, Joseph, Kansas City 1888
Shaw, A. B., St. Louis 1886
Short, J. L., St. Louis 1893
Sloan, A. B., Kansas City 1879
Smith, E. V., St. Louis 1886
Spiegelhalter, J., St. Louis 1886
Steele, A. J., St. Louis 1893
Steer, Justin, St. Louis 1886
Tefft, J. E., Springfield 1882
Thatcher, J. P., Pisgah 1886
Thompson, J. H. Kansas City 1885
Tiffany, F. B., Kansas City 1884
Tuholske, H., St. Louis 1885
Tupper, P. Y., St. Louis 1886
Tyree, W. C., Kansas City 1886
Van Note, E. J., Hamilton 1885
Vernon, G. W., Morehouse 1893
Von Quast, E. Kansas City 1890
Wallace, John S., Brunswick 1886
Waters, R. C., Perryville 1886
Wesseler, F. W., St. Louis 1876
Wilson, B. F., Slater 1890
Wilson, A. M., Kansas City 1891
Wilson, W. B., Cape Girardeau 1885
Wood, J. B., Marshall 1886

MONTANA

Adams, F. J., Great Falls 1892
Campbell, W. H. Livingston 1891
Cole, C. K., Helena 1893
Ford, L. C., Lima 1891
King, G. W., Marysville 1893
McKay, McH., White Sulphur Springs 1892
Miller, C. B., Helena 1880
Mitchell, A. H., Deer Lodge 1892
Owings, J. H., Deer Lodge 1892
Penny, H. T., Sand Coulee 1892
Sandow, B. F., Neihart 1894
Riddell, W. C., Elkhorn 1893
Shultz, W. M., Butte 1893
Sligh, J. M., Granite 1892
Welles, G. R., Livingston 1891

NEBRASKA

Anderson, A. B., Pawnee City 1886
Armstrong, J. T., Beatrice 1892
Arthur, M. L., Oakland 1893
Ballard, C. F., Havelock 1892
Benton, B. A., Central City 1892
Boardman, E. O., Overton 1892
Brady, L. M., Oxford 1893
Brother, Ferd, Beatrice 1876
Bryant, DeWitt C., Omaha 1890
Bush, J. C., Wahoo 1888
Butler, F. A., Harvard 1890
Carter, J. O., Lincoln 1882
Coffin, C. E., North Loup 1891
Coffman, V. H., Omaha 1882
Crummer, B. F., Omaha 1882
Cushman, H., Stromsburg 1884
Davis, J. C., Omaha 1892
Dawson, J. O., Lincoln 1883
Denise, J. C., Omaha 1886
Fletcher, E. R., St. Paul 1891
Galbraith, W. J., Omaha 1886
Garten, M. H., Lincoln. 1889
Haggard, J. R., Lincoln. 1890
Haldeman, F. D., Ord 1884
Hall, P. L., Mead 1892
Harrington, H. E., Bertrand. 1890
Hasemeier, J. A., Louisville. 1892
Hildreth, M. L., Lyons 1890
Humphreys, G. L., Kearney 1878
Hungate, J. B., Weeping Water 1892
Jones, A. F., Omaha. 1892
Jones, W. D., Rising City 1893
Kern, W. B., Wood River 1892
Kerr, W. H., Falls City. 1892
Keller, A., Falls City 1892
Kirkpatrick, M., South Omaha 1892
Lee, Edward W., Omaha 1882
Leisenring, H. G., Wayne 1892
Link, H., Millard 1880
Livingston, Theo. P., Plattsmouth. 1887
Long, F. A., Madison 1890
Lord, John P., Omaha 1887
McConaughby, Robert, York 1880
McKeeby, Geo., Red Cloud 1892
Mansfelde, A. S. von, Ashland 1884
Moore, R. C., Omaha 1882
Morris, F. S., McCool Jct 1892
O'Connell, J. M., Ponca 1891
Peabody, J. H., Omaha 1870
Quinn, John H., Gothenberg 1888
Rodgers, W. D., Omaha 1892
Schaufelberger, J. J., Hastings. 1892
Shidler, G. W., York 1888
Simmons, G. H., Lincoln 1893
Smith, E., Burchard 1884
Smith, L. B., Fremont. 1885
Spaulding, S. K., Omaha. 1890
Stevenson, W. J., Winnebago 1892
Stone, I. G., Wahoo 1892
Summers, John E. Jr., Omaha 1887
Sutherland, J. Lue, Grand Island. 1894
Tilton, H. R., Fort Omaha 1892
Vanden, George, Seward 1891
White, W. S., Palmyra 1885
Whitten, E. M., Nebraska City 1892
Wilkinson, A. D., Lincoln 1892
Wilkinson, George, Omaha 1893
Woodward, T. H., Lincoln 1890

NEW HAMPSHIRE

Adams, Daniel S., Manchester 1889
Aldrich, W. H., Marlboro 1889
Carvelle, H. D. W., Manchester 1889
Conn, G. P., Concord 1880
Evans, E., Winchester 1880
Erskine, J. B., Colebrook 1892
Gove, Geo. S., Whitefield 1884
Graves, E. E., Boscowen 1884
Houghton, E. J., Claremont 1893
Hyland, J. B., Keene 1889
Lathrop, M. C., Dover 1881
Leach, T. W., New Market 1878
Parsons, J. W., Portsmouth. 1870
Richardson, A. P., Walpole. 1880
Sanborn, T. B., Newport 1884
Watson, Irving A., Concord. 1884
Weymouth, H. A., Andover 1881

NEW JERSEY

Allen, U., Jersey City Heights 1891
Baldwin, H. R., New Brunswick 1880
Bayles, G., Orange 1884
Benjamin, D., Camden 1884
Branin, H. E., Blockwood 1892
Braymer, O. W., Camden 1891
Carman, J. H., Plainfield . . . . .
Carpenter, A. E., Boonton 1870
Coit, Henry L., Newark. 1889
Cooke, H. G., Holmdel. 1884
Currie, D. A., Englewood 1876
Dare, Chas. H., Bridgeton 1892
Davis, W. A., Camden. 1884
Dickinson, G. K., Jersey City 1880
Donges, J. W., Camden 1884
Edge, B., Jersey City 1891
Elmer, Wm., Trenton 1891
Elmer, H. W., Bridgeton 1884
English, D. C., New Brunswick 1870
Fisler, S. F., Clayton. 1892
Fitch, Thos. S. P., Orange 1889
Gross, O. B., Camden 1880
Hamill, E. H., Newark 1893
Hinkley L. S., Newark 1887
Hough, H. Page, Rahway 1889
Hyde, Ed. J., Newark 1887
Kirkbride, M. F., Spring Lake Beach 1892
Johnson, W. B., Patterson 1891
Korneman, H. A., Newark 1888
McAllister, Alexander, Camden 1893
McGill, J. D., Jersey City 1872
Marsh, E. J., Paterson 1891
Mathewson, W. B., Somerville 1889
Merrill, J. R., Paterson 1892
Neer, H. C., Park Ridge 1890
Newton, R. C., Montclair 1892
Palm, H. F., Camden. 1893
Pettitt, A., Elizabeth 1891
Pierson, Wm., Orange 1876
Probasco, John B., Plainfield. 1888
Quimby, I. N., Jersey City 1872
Reading, G. E., Woodbury 1892
Reed, B., Atlantic City, ... 1884
Ryerson, J. G., Boonton 1891
Skinner, D. M., Belleville 1880
Smith, D. W., Newark 1876
Southard, L., Newark 1876
St. John, D., Hackensack 1892
Stockton, Charles S., Newark 1889
Straley, S. B., Andover 1892
Taylor, H. G., Camden 1870
Terry, J. W., Englewood 1887
Voorhees, C. H., New Brunswick 1887
Waddington, B. A., Salem 1890
Walters, John, Port Oram 1892
Ward, Arthur, Newark 1889
Watson, W. P., Jersey City 1889
Way, Eugene, Dennisville . . . . .
Welch, G. T., Passaic 1884
Wikoff, J. H., Princeton 1884
Williamson, N., New Brunswick 1880
Wrightson, J. T., Newark 1884
Young, J. C., Newark 1893

NEW MEXICO

Atkins, F. H., East Las Vegas 1892
Kaster, J. P., Albuquerque 1888
Joyner, W. T., Roswell 1892
Shaw, E. B., East Las Vegas 1886
Tipton, W. R., Las Vegas 1883
Welch, J. P., Belen 1893
Winslow, C. E., Albuquerque 1887

NEW YORK

Ainsworth, H. R., Addison 1879
Anderton, W. B., New York 1883
Andrews, J. B., Buffalo 1884
Armstrong, S. T., New York 1885
Arnold, E. S. F., New York. 1863
Ayres, Douglas, Fort Plain 1892
Bacon, C. G., Fulton 1855
Backus, Ogden, Rochester 1892
Bailhache, P. H., U. S. M. H. S. Staten Island. 1876
Baker, B. N., Rhinebeck 1894
Bangs, L. B., New York 1880
Bates, Xyris, Poughkeepsie 1885
Bellows, G. A., Waterloo 1891
Benham, J. C., Hudson 1884
Bennett, T. W., Jeffersonville 1885
Biggs, H. M., New York 1884
Birsdall, G., N. Brookfield 1880
Bishop, H. M., S. Brooklyn 1882
Blair, L. P., McDonough 1892
Bleyer, J. M., New York 1889
Bloodgood, D., Brooklyn. 1892
Bodkin, D. G., Brooklyn 1876
Boldt, H. J., New York 1893
Bontecou, R. B., Troy 1853
Bosworth, F. H., New York 1884
Boyd, James P., Albany 1880
Bozeman, N. New York 1884
Briggs, A. H., Buffalo 1884
Brown, John P., Nunda 1892
Brown, U. H., Syracuse . . . . .
Brown, J. W., Mottville 1880
Brush, E. F., Mt. Vernon 1884
Bryant, J. D., New York 1880
Bulkley, L. D., New York. 1874
Burchard, T. H., New York 1880
Burge, J. H. H., Brooklyn 1887
Burrall, F. A., New York. 1872
Burrell, D. R., Canandaigua 1878
Burton, M. H., Troy. 1869
Carpenter, H. W., Oneida 1885
Case, M., Oneonta 1891
Clum, F. D., Cheviot 1893
Coakley, J. B., Buffalo 1883
Cock, I. S., New York 1848
Coffin, Lawrence, Brooklyn 1894
Colvin, D., Clyde 1878
Cook, Chas. D., Brooklyn 1886
Contant R. B., Tarrytown 1885
Congdon, C. E., Buffalo 1892
Conner, M. C. Middletown 1892
Creveling, J. P., Auburn 1890
Crocker, Edw., Narrowsburg. 1894
Cronyn, John, Buffalo 1878
Curtis, H. H., New York 1889
Cutter, E., New York 1871
Cutter, J. A., New York 1888
Dagenais, A., Buffalo 1884
Dallas, A., New York 1893
Daniels, C. M., Buffalo 1884
Davis, J. G., New York 1890
De Garmo, Wm. B., New York 1889
DeLaney J. P., Geneva 1894
Denison, C. E., New York 1889
Dennis, F. S., New York 1883
DeWitt, Byron, Oswego. 1876
De Zouche, Isaac, Gloversville. 1885
Didama, H. D., Syracuse 1864
Dolley, Sarah R. A., Rochester 1889
Douglas, Geo., Oxford 1889
Doyle, G., Syracuse. 1880
Dudley, A. P., New York 1884
Durant, G., New York 1876
Eccles, R. G., Brooklyn 1888
Edwards, A. S., Syracuse. 1878
Edwards, G. A., Syracuse 1884
Einhorn, Max, New York 1893
Ellinwood, A. G., Attica 1880
Eliot, E., New York. 1880
Farrington, J. M., Binghamton 1889
Fell, Geo. E., Buffalo 1889
Fenno, Henry M., Rochester 1889
Ferguson, E. D., Troy. 1880
Field, M. D., New York 1894
Flandrau, T. M., Rome 1878
Folwell, M. B., Buffalo 1878
Forbes, W. H., Oscawana 1888
Fowler, Geo. R., Brooklyn 1880
Frederick, C. C., Buffalo 1888
Freeland, N. H., Tarrytown 1876
French, S. H., Amsterdam 1883
Furman, J. H. Tarrytown 1892
Gibbons, P. J., Syracuse 1892
Gibney, Virgil P., New York. 1881
Gilbert, Horatio, Hornellsville 1892
Gleitsmann, J. W., New York 1879
Glidden, Charles H., Little Falls 1889
Goelet, A. H., New York 1893
Gouley, J. W. S., New York 1873
Green, S. S., Buffalo 1893
Gulick, C. R., Brooklyn 1894
Guy, J. D., Chenango Forks 1892
Hagey, J. M., Mt. Morris 1889
Hall, Nelson F., Fulton. . . . .
Hammer, Charles, Schenectady 1889
Hanks, H. T., New York 1893
Harrington, D. W., Buffalo. 1887
Harrison, G. T., New York 1881
Hart, I. F., Elmira 1876
Haynes, J. U., Cohoes 1894
Heath, W. H., Buffalo 1892
Hendrick, H. C. Mc., Granville 1876
Hewitt, A., Saratoga Springs 1894
Hinton, J. H., New York 1876
Hodgman, Abbott, New York 1889
Holmes, Martha C., New York 1889
Hovey, B. L., Rochester 1876

Hubbard, S. T., New York 1880
Hubbell, A. A., Buffalo. 1892
Huestis, W. B., Kiskatom. 1894
Hulette, G. S., Arcade 1894
Hun, Thomas, Albany 1853
Ingraham, H. D., Buffalo. 1893
Jackson, V. H., New York 1891
Jacobson, N., Syracuse. 1890
Jamison, J. S., Hornellsville 1885
Janvrin, J. E., New York. 1880
Jenkins, N. E., Auburn 1881
Johnson, T. M., Buffalo. 1884
Judson, A. B., New York 1876
Keefer, Chas. W., Mechanicsville 1892
Kempe, J. J., Rochester 1883
Kenyon, Frank, Scipio. 1880
King, Ferdinand, New York 1890
King, J. K., Watkins 1893
Kittinger, M. G., Lockport 1883
Knapp, Herman, New York 1892
Landon, N. E., Newark. 1885
Leale, Charles A., New York. 1876
Leaming, J. R., New York 1880
Leaning, J. K., Cooperstown. 1884
Leffingwell, E. D., Watkins. 1893
Leighton, N. W., Brooklyn 1885
Lester, E., Seneca Falls 1889
Lincoln, D. F., Geneva 1889
Lloyd, T. M., Brooklyn 1892
Lockwood, J. W., Philmont 1894
Long, A. J., Whitehall 1878
Lundgren, C. E., Jamestown. 1886
Lung, J. B., Brooklyn 1889
Lusk, W. T., New York. 1884
Lusk, Z. J., Warsaw. 1893
Lyman, E. S., Sherburne 1876
McAlpin, D. H., New York. 1894
McClellan, E. S., New York 1891
McCollom, Wm., Brooklyn. 1889
McGillicuddy, T. J., New York. 1891
McLean, LeRoy, Troy. 1870
McLeod, S. B. W., New York 1872
McPherson, G. W., Lancaster 1892
Manley, Thomas H., New York. 1889
Martin, J. H., Otego. 1894
Martine, Godfrey R., Glens Falls. 1887
Mason, L. D., Brooklyn . . . . . .
Mattison, J. B., Brooklyn 1891
Meier, G. C. H., New York 1889
Mercer, J. A., Syracuse. 1878
Miller, A. B., Syracuse 1892
Milliken, S. E., New York 1892
Minard, Eliza J. C., Brooklyn 1889
Moore, E. M., Rochester 1849
Morris, R. T., New York 1889
Munn, J. P., New York 1883
Murray, D. H., Syracuse 1891
Murray, S. J., New York 1892
Mynter, H., Buffalo. 1892
Neftel, W. B., New York 1870
Newcomb, James E., New York 1892
Newman, R., New York. 1872
Nichell, H., Buffalo 1863
North, N. L., Brooklyn 1885
Noxon, D. C., Bloomingburg. 1884
Noyes, H. D., New York 1864
Nutter, W. F., Newark 1894
O'Brien, M. C., New York 1891
Ostrander, G. A., Brooklyn. 1892
Orton, J. G., Binghamton. 1883
Owen, May, Brooklyn 1890
Page, R. C. M., New York 1881
Palmer, C. N., Lockport 1878
Park, Roswell, Buffalo 1877
Parsons, John, Kings Bridge. 1880
Perry, John G., New York 1872
Phelps, W. C., Buffalo 1878
Porteous, J. G., Poughkeepsie 1892
Preston, B. I., Rochester 1883
Price, H. R., Brooklyn 1883
Robb, W. H., Amsterdam 1878
Robinson, A. R., New York 1886
Rochester, D., Buffalo 1894
Roe, J. O., Rochester 1880
Rogers, H. R., Dunkirk. 1868
Rubison, E. T., Amsterdam 1893
Ruggles, A. D., New York 1889
Rushmore, J. D., Brooklyn 1881
Sawyer, Conant, Auburn. 1889
Sayre, L. A., New York 1848
Sayre, R. H., New York 1887
Schaeffer, E. M., Dansville 1893
Schmidt, H. E., White Plains 1880
Schoonover, W., New York 1860
Seaman, F. G., Seneca Falls 1889
Segur, Avery, Brooklyn 1893
Selden, Robert, Catskill 1889
Sell, E. H. M., New York 1867
Seymour, W. W., Troy 1884
Sharer, John P., Little Falls 1880
Shepard, C. H., Brooklyn 1890
Shrady, J., New York 1880
Silver, H. M., New York 1880
Skinner, S. A., Hoosick Falls 1883
Small, J. W., New Rochelle. 1891
Smith, J. L., New York. 1880
Smith, J. R., U. S. A., New York Harbor . 1874
Smith, G. M., New York 1858
Smith, Stephen, New York. 1884
Squibb, E. H., Brooklyn 1889
Squibb, E. R., Brooklyn 1889
Stein, A. W., New York. 1870
Stevens, George I., New York 1881
Stewart, F. E., Watkins 1882
Stockton, C. G., Buffalo 1888
Stockschlaeder, P., Rochester 1892
Strong, C. J., New York 1894
Strong, O. C., Cohlen 1894
Strong, T. D., Westfield. 1878
Suter, A. W., Herkimer. 1893
Sullivan, J. D., Brooklyn 1886
Sutton, H. C., Rome. 1888
Thomas, T. G., New York 1880
Townsend, M. W., Bergen. 1876
Townsend, W. N., New York 1884
Traver, R. D., Troy . . . . . .
Tremaine, Wm. S., Buffalo 1878
Tripp, C. H., Clinton Corners 1878
Truax, J. G., New York. 1889
Tucker, C. P., New York 1894
Vanderveer, A., Albany. 1879
Vanderveer, J. R., Monroe 1878
Van de Warker, E., Syracuse. 1886
Van Wyck, R. C., Hopewell Junction . . . 1889
Wales, T. A., Elmira 1880
Ward, R. H., Troy 1888
Warner, J. W., New York. 1894
Watson, W. S., Matteawan 1891
Webb, J. A., E. Meredith 1889
Webster, W. B., Schuylerville 1893
Weeks, Jno. E., New York 1892
Wenz, J., Lancaster. 1882
Weston, A. T., New York 1894
Wieber, Geo., Brooklyn. 1889
Wiggin, F. H., New York. 1889
Wight, J. S., Brooklyn 1880
Williams, W. H., Brooklyn. 1860
Wilson, Thos., Claverack 1893
Witthaus, R. A., New York. 1893
Woodruff, E. G., Watkins. 1893
Woodruff, R. A., Philmont. 1894
Woodsworth, T. F., Kinderhook. 1892
Wunderlich, F. W., Brooklyn 1880
Wyckoff, C. C., Buffalo. 1863
Wyckoff, R. M., Brooklyn 1889
Wyeth, J. A., New York. 1891
Zabriskie, W. H., Glen Cove, L. I 1891

NORTH CAROLINA

Bagwell, W. H., Pactolus 1891
Battle, S. W., Asheville. 1891
Best, W. L., Johnson's Mills 1892
Cheatham, W. T., Henderson. 1892
Fuller, F. T., Raleigh 1893
Haigh, T. D., Fayetteville. 1885
Harrell, W. J., Aulander 1892
Haywood, H., Raleigh. 1881
Jones, William J., Goldsboro 1889
Kirkman, I. C., Ore Hill 1892
Laird, E. C., Haw River 1892
Lumsden, William J., Elizabeth City . . . 1889
O'Hagan, C. J., Greenville 1872
Patterson, Duncan M., Mangum 1881
Reagan, J. A. Weaverville 1885
Tucker, John H., Henderson. 1887
Von Ruck, Karl, Asheville. . . . . .

OHIO

Alford, Judson B., Grand Rapids 1888
Allen, Dudley P., Cleveland. 1888
Allen, George M., Cincinnati 1888
Alley, E. H., Toledo 1876
Alvord, R. R., Montpelier. 1892
Ayres, J. H., Urbana 1880
Ayres, S. C., Cincinnati. 1888
Bain, F. D., Kenton. 1884
Baker, A. R., Cleveland. 1888
Barnhill, J. U., Columbus 1891
Barrett, J. E., Wooster 1883
Barton, T. J., Zanesville 1883
Beach, John N., West Jefferson 1883
Beardsley, C. E., Ottawa 1874
Becker, B., Toledo. 1892
Bell, A. E., Zanesville 1888
Benner, Chas. T., Tiffin 1892
Bennett, J. H., Wauseon 1876
Bessey, J. M., Toledo 1888
Bishop, S. P., Delta 1885
Blair, B. H., Lebanon. 1886
Bonifield, C. L., Cincinnati 1893
Bonner, Horace, Dayton 1892
Bossert, J., Washingtonville 1884
Boylan, Joseph E., Cincinnati 1888
Brant, A. C., Canton 1892
Brashear, B. B., Cleveland 1890
Bricker, W. R., Shelby 1883
Briggs, Eldorado, Wilmington. 1888
Brigham, O. S., Toledo 1883
Brockett, A. J., Cleveland 1876
Brooke, G. W., Ellsworth 1883
Brown, Hattie C., Cincinnati 1892
Brown, H. M., Hillsboro 1888
Brown, J. A., Germantown. 1888
Bruehl, Gust., Cincinnati 1871
Brundage, A. H., Xenia 1883
Buckingham, J. M., Springfield 1884
Buckner, James H., Cincinnati 1864
Buechner, W. L., Youngstown. 1882
Bundy, D. B. Middletown 1888
Bunts, F. E., Cleveland. 1892
Burn, J. W., West Union 1884
Byall, H. M., Montpelier 1889
Caldwell, Charles E., Cincinnati 1888
Caldwell, Wm., Fremont. 1883
Carmichael, W. A., Loveland 1888
Carpenter, Julia W., Cincinnati 1888
Case, F. D., Ashtabula 1892
Cassett, M., Cincinnati 1888
Clark, J. H., Mechanicsburg 1888
Clark, M. S., Youngstown 1888
Cleveland, John L., Cincinnati 1883
Cline, J. B., Perintown 1889
Coleman, N. R., Columbus 1888
Collamore, G. A., Toledo 1883
Collins, Milton H., South Charleston . . . 1888
Colter, L. S., Cincinnati 1888
Comegys, C. G., Cincinnati 1892
Cook, G. F., Oxford. 1884
Conklin, S. A., Canton 1886
Conklin, W. J., Dayton 1873
Conner, P. S., Cincinnati 1878
Corson, O. M., Middletown. 1867
Cosgrove, T. M., Auburndale 1881
Craig, J. Harvey, Mansfield 1883
Craver, S. B., Toledo 1888
Culbertson, J. C., Cincinnati 1862
Cullen, G. L., Cincinnati 1889
Cushing, H. K., Cleveland 1862
Custer, L. E., Dayton 1878
Curry, J. H., Toledo 1890
Dandridge, N. P., Cincinnati 1892
Davis, C. W., Cincinnati 1883
Davisson, J. A., Eldorado 1892
Death, H. J., Franklin 1894
De Beek, David, Cincinnati 1893
De Vilbiss, A., Toledo 1883
DeWitt, W. H., Cincinnati 1888
Dickes, Philip, Greenville 1888
Dickey, T. A., Middletown 1888
Dickson, J. A., Ashtabula 1891
Dickson, J. A., Youngstown 1891
Dixon, W. A., Ripley 1892
Dorman, H. W., Ashtabula 1892
Dowling, F., Cincinnati 1891
Duncan, J. A., Toledo 1883
Dunham, Wm. H., Cincinnati 1888
Dunn, O. B., Ironton 1883
Dutton, C. F., Cleveland 1883
Eichberg, J., Cincinnati 1893
Erwin, Alex, Mansfield 1892
Evans, G. B., Dayton 1889
Evans, O., Franklin 1888
Evans, R. P., Franklin 1885
Everhard, N. S., Wadsworth 1874
Everts, O., College Hill 1886
Eyer, Alvin, Cleveland 1893
Faber, C. A., Toledo 1894
Fackler, G. A., Cincinnati 1886
Ferguson, J. W., Canaan 1888
Firestone, W. W., Wooster 1887
Fitzpatrick, T. V., Cincinnati 1892
Fletcher, M. H., Cincinnati 1862
Focht, Wm. H., Tiffin 1887
Forbes, S. F., Toledo 1874
Fowler, S. W., Delaware 1883
Franklin, G. S., Chillicothe 1883
Fraunfelter, J., Canton 1883
French, J. M., Cincinnati 1883
Frew, Wm. C., Coshocton 1887
Gawne, A. J., Sandusky 1883
Gay, N., Columbus 1884
Gehrette, T. M., Deshler 1891
Gibson, R. D., Youngstown 1883
Gibbon, H. B., Tiffin 1892
Gifford, W. R., Toledo 1884
Gilliam, D. Tod, Columbus 1889
Gordon, T. W., Georgetown 1875
Gores, F. C., Cincinnati 1888
Graefe, C., Sandusky 1884
Green, J. H., Troy 1893
Greenamyer, P. S., Orrville 1890
Haines, W. D., Cincinnati 1888
Halderman, S. S., Portsmouth 1893
Hall, Rufus B., Cincinnati 1888
Hall, W. W., Springfield 1888
Hamer, W. W., Bellefontaine 1890
Hamilton, C. S., Columbus 1891
Hamilton, H. A., Perrysburgh 1884
Hamilton, J. W., Columbus 1880
Hamilton, L. D., Marion 1892
Hamilton, W. D., Columbus 1890
Hardy, N., Massillon 1891
Harmon, Julian, Warren 1882
Harrison, E. B., Napoleon 1874
Hart, B. F., Marietta 1887
Hart, H. A., Wooster 1884
Hart, Samuel, Marietta 1888
Hasencamp, Oscar, Toledo 1892
Hathaway, H., Toledo 1883
Hawn, Enos, Leetonia 1884
Hedges, J. S., Mansfield 1891
Hendley, F. W., Cincinnati 1888
Herrick, H. J., Cleveland 1877
Herrin, N. B., Wilson 1891
Hill, N. S., Neville 1886
Himes, I. N., Cleveland 1876
Hinckley, H. D., Oxford 1888
Hiner, S. B., Lima 1873
Hines, J. A., Van Wert 1888
Hixson, M. M., Dupont 1891
Hoeltge, A., Cincinnati 1883
Hoff J. W., Pomeroy 1883
Holmes, C. R., Cincinnati 1863
Holston, J. G. F., Zanesville 1888
Hoover, T. C., Columbus 1890
Hough, C. A., Lebanon 1888
House, A. F., Cleveland 1892
Hubbard, Thos., Toledo 1892
Hughes, D. E., Delaware 1893
Humiston, W. H., Cleveland 1883
Hunt, A. H., Wooster 1883
Hurd, A., Findlay 1874

Jacobs, W. C., Akron 1883
Jennings, D. R., Cleveland 1891
Johnson, O., Worthington 1883
Johnson, T. M., Canton 1892
Jones, Frank S., Medina 1883
Jones, George E., Cincinnati 1888
Jones, J. D., Newburg 1883
Jones, R. C., Cincinnati 1886
Jones, R. E., Gomer 1882
Jones, T. W., Columbus 1883
Judkins, Wm., Cincinnati 1881
Juler, Henry C., Cincinnati 1888
Kahle, R. D., Lima 1888
Kelley, H. R., Galion 1884
Kendig, E. V., Hayesville 1884
Kinsman, D. N., Columbus 1892
Kirkley, C. A., Toledo 1888
Kirkpatrick, O. B., Cherry Fork 1888
Knight, Wm., Cincinnati 1888
Koehler, Max, Cincinnati 1888
Krieger, G. L., Madisonville 1883
Landman, Otto, Toledo 1892
Langsdale, R. G., Terrace Park 1888
Langdon, F. W., Cincinnati 1892
Lathrop, J. M., Dover 1884
Lenhart, W. C., Columbus 1883
Leonard, B. S., West Liberty 1884
Leonard, W. W., Akron 1893
Leslie, J. M., Chillicothe 1888
Lightner, S. B., Sabina 1883
Long, John W., Bryan 1888
Loving, Starling, Columbus 1876
Longfellow, R. C., Cincinnati 1893
Lowman, J. H., Cleveland 1892
Luff, Theo. R., Castine 1888
Lyman, C. N., Wadsworth 1874
McClellan, B. R., Xenia 1887
McClung, J. C., Leipsic 1888
McCollum, E. J., Tiffin 1885
McCurdy, John, Youngstown 1883
McCurdy, S. L., Dennison 1883
McDougal, John G., New Lexington 1888
McEbright, T., Akron 1867
McKee, E. S., Cincinnati 1885
Macready, James, Monroe 1888
Marchand, J. F., Canton 1891
Marquardt, O. M., Osborn 1892
Millikin, B. L., Cleveland 1892
Millikin, D., Hamilton 1882
Mills, J. T., Jersey 1890
Miner, A. G., Niles 1885
Mitchell, E. W., Cincinnati 1888
Mitchell, G. S., Cincinnati 1888
Mitchell, T. A., Owensville 1888
Moody, M. M., Chatham Centre 1883
Moore, Wm., New Lisbon 1878
Morris, J., Ironton 1878
Morrow, Edw. P., Canton 1892
Mortland, J. C., Edgerton 1874
Moses, T. F., Urbana 1888
Mosgrove, James M., Urbana 1887
Mounts, J. L., Morrow 1882
Mullen, Thos. J., New Richmond 1888
Murphy, J. A., Cincinnati 1878
Murray, L. S., Medina 1874
Mussey, W. L., Cincinnati 1890
Nash, E. K., Montrose 1890
North, John, Toledo 1877
Noyes, H. J., McConnellsville 1876
Oliver, J. C., Cincinnati 1892
Pearce, Henry C., Urbana 1888
Peck, G. S., Youngstown 1888
Pennell, W. W., Fredericktown 1888
Peskind, Arnold, Cleveland 1891
Pettit, R. R., Dayton 1888
Pontius, L. W., Canton 1887
Pontius, Maria G., Canton 1888
Poare, R. J., Cincinnati 1888
Post, S. B., Canton 1892
Powell, H. H. Cleveland 1883
Powell, W. S., Defiance 1882
Quinn, Allen T., Wilmington 1880
Quirk, H. W., Cleveland 1889
Ransohoff, J., Cincinnati 1882
Ravogli, Aug., Cincinnati 1892
Read, A. N., Norwalk 1855
Reamy, Thad. A., Cincinnati 1867
Read, C. R., Middleport 1883
Reed, C. A. L., Cincinnati 1888
Reed, John G., Elmwood Place 1893
Reed, R. H., Columbus 1883
Reed, R. C. S., Cincinnati 1891
Reed, T. J., Massillon 1878
Reed, W. F., Ottawa 1883
Reeve, J. C., Dayton 1866
Reinfrank, J. H., Perrysburgh 1882
Rhu, Auguste, Marion 1888
Ricketts, B. M., Cincinnati 1888
Ricketts, E. S., Cincinnati 1884
Ricketts, J. V., Cincinnati 1891
Robison, J. D., Wooster 1859
Rodgers, J. H., Springfield 1883
Rosenwasser, M., Cleveland 1892
Root, H. A., Toledo 1892
Russell, John E., Mt. Vernon 1887
Ryan, Geo. W., Cincinnati 1888
Sager, Joseph, Celina 1883
Sattler, E. C., Cincinnati 1889
Sattler, Robt., Cincinnati 1888
Sawyer, P. H., Cleveland 1892
Schwagmeyer, A., Cincinnati 1888
Scott, A. J., Loudonville 1881
Scott, B. B., Mt. Vernon 1883
Scott, W. J., Cleveland 1876
Scott, X. C., Cleveland 1874
Sharp, H. J., London 1882
Shaw, W. E., Cincinnati 1888
Sheldon, S. B., Five Mile 1883
Sherrard, A. C., Oakwoods 1892
Sihler, Christian, Cleveland 1893
Silver, D. R., Sidney 1883
Slager, J. L., Paulding 1890
Slocum, C. E., Defiance 1875
Smith, C. N., Toledo 1892
Smith, D. B., Cleveland 1883
Smith, Henry A., Cincinnati 1888
Smith, Wm., Van Wert 1877
Snodgrass, J., Kenton 1888
Snyder, D. J., Scio 1886
Spencer, E. R., Doylestown 1888
Stamm, M., Fremont 1883
Stanley, E., Sandusky 1883
Stanton, Byron, Cincinnati 1882
Starr, G. L., Hudson 1883
Stevens, M. B., Defiance 1875
Stewart, Robert W., Cincinnati 1888
Stewart, T. H., Church Hill 1876
Strain, A. J., London 1886
Swan, E. A., Bellefontaine 1892
Sykes, R. D., Plymouth 1891
Taft, J. Cincinnati 1886
Taylor, Jas. L., Wheelersburg 1888
Taylor, Wm. H., Cincinnati 1883
Thomas, F. W., Marion 1887
Thompson, Wilbur R., Troy 1888
Thorn, S. S., Toledo 1883
Thorner, M., Cincinnati 1888
Thrasher, A. B., Cincinnati 1888
Todd, J. H., Wooster 1883
Tracy, J. L., Toledo 1894
Tressel, J. H., Alliance. 1877
Trush, Jacob, Cincinnati. 1888
Tuller, Willis M., Bowling Green 1888
Vail, J. B., Lima 1884
VanPelt, C. L., Toledo 1888
VanWinkle, N. B., Blanchester. 1888
VonKlein, C. H., Cleveland 1883
Waggoner, Joseph, Ravenna 1882
Walker, A. B., Canton 1891
Walker, Edw. W., Cincinnati. 1888
Walker, Geo. W. W., Roseville. 1888
Wanzer, C. M., Zanesfield 1894
Warner, E. J., Congress 1891
Weaver, J. M., Dayton 1883
Weeks, O. W., Marion 1883
Weitz, Jos. A. Montpelier. 1892
Wenning, Wm. H., Cincinnati 1888
Whittaker, J. T., Cincinnati 1881
Wilbur, A. M., West Unity 1888
Willey, A. G., Spencer 1893
Willard, G. P., Tiffin 1891
Wilson, A. C., Youngstown. . . . .
Wilson, DeWitt C., Ironton. 1889
Winn, John J., Norwood 1888
Wire, G. W., Wilmington 1888
Wirt, Wm. E., Cleveland 1892
Withrow, John M., Cincinnati 1888
Wood, John S., Collinwood 1888
Woodbridge, J. E., Youngstown 1869
Woods, J. T., Toledo 1884
Woodward, W. R., Cincinnati 1888
Wright, S. J., Tallmadge 1891
Wuchter, Geo. H., Wadsworth 1892
Zinke, E. G., Cincinnati 1884

OKLAHOMA TERRITORY

Dougan, W. McKay, Otoe. 1894
Horner, Levi, Kildare 1890

OREGON

Boys, Wm., Portland 1882
Cromwell, J. N., Union. 1894
Dodson, O. M., Baker City 1894
Eaton, F. B., Portland 1894
Fraser, E. P., Portland 1892
Gaff, John B., Portland. 1894
Guvon, E. F., Pendleton 1892
Holmes, H. R., Portland 1880
McCormac, J. T., Marshfield. 1894
Marston, G. W., Albany 1892
Quigley, John M., E. Portland 1894
Rockey, A. E., Portland 1892
Smith, C. J., Pendleton. 1892
Wright, H. A., Linkville 1889

PENNSYLVANIA

Adler, L. H. Jr., Philadelphia 1891
Ainey, D. C., New Milford 1884
Allen, E. P., Athens. 1860
Allen, Mary E., Philadelphia. 1892
Allis, O. H., Philadelphia. 1893
Allyn, G. W., Pittsburg. 1891
Allyn, H. B., Philadelphia 1891
Anders, Howard S., Philadelphia 1894
Anders, J. M., Philadelphia 1884
Anderson, Jas. W., Ardmore 1889
Anderson, Wm., Indiana. 1868
Armstrong, J. A., Leechburg 1892
Arters, J. D., Oil City 1892
Ash, H. St. Clair, Philadelphia. 1890
Asdale, W. J., Pittsburg 1860
Ashton, Wm. E., Philadelphia 1892
Atkinson, W. B., Philadelphia 1859
Aulde, John, Philadelphia. 1889
Ayres, S., Pittsburg 1884
Bacon, W. F., York 1891
Baer, B. F., Philadelphia 1885
Baker, Geo. F., Philadelphia. 1892
Ball, F. P., Lock Haven. 1891
Balmer, A. F., Brookville 1883
Banes, S. L., Philadelphia 1892
Barker, T. R., Philadelphia 1891
Bartleson, S. P., Clifton Heights 1883
Barr, G. W., Titusville 1868
Batten, J. M., Pittsburg. 1876
Baxter, H. F., Philadelphia 1880
Beane, W. H., Middletown 1892
Beaver, D. B. D., Reading 1891
Beates, H. Jr., Philadelphia. 1894
Bell, G. Franklin, Williamsport 1883
Bell, S. J., Butler 1892
Bennett, Alice, Norristown 1884
Berlin, J. O., Bath. 1881
Bernardy, E. P., Philadelphia 1891
Birch, T. J., Port Carbon 1883
Bishop, W. T., Harrisburg 1884
Bittinger, J. H., Hanover 1881
Blachly, O. L., Wilkinsburg 1880
Blaisdell, I. C., Wilmore 1883
Blumberg, A., Pittsburg 1884
Boal, G. Y., Baden 1887
Bodamer, Geo. A., Philadelphia 1892
Brandes, Charles, Erie . . . . .
Bower, C. L., Philadelphia. 1892
Breinig, P. B., Bethelehem. 1865
Brinton, J. H., Philadelphia 1880
Bronson, A. F., Girardville. 1892
Brumbaugh, A. B., Huntingdon 1884
Brundage, A. T., Scranton 1880
Buchanan, J. J., Pittsburg 1887
Bucher, I. R., Lebanon 1884
Buckby, W., Philadelphia 1891
Burnett, C. H., Philadelphia 1891
Burnett, J., Scranton 1889
Burns, R. B., Philadelphia 1889
Buttermore S., Connellsville. 1874
Cadwallader, C. E., Philadelphia 1887
Caldwell, Joseph R., New Hamburg 1887
Carpenter, John L., Pottsville. 1878
Cass, J. T., West Lebanon 1892
Chase, R. H., Frankford 1891
Chestnut, J. H. W., Philadelphia 1889
Chritzman, H. G., Welsh Run 1884
Christy, I. C., Pittsburg 1891
Clagett, L. S., Blairsville 1881
Clark, L. S., Philadelphia 1880
Clarke, Rowan, Tyrone 1880
Clarkson, J. A. C., Lewistown 1888
Cline, G. H., Jersey Shore 1891
Cline, J. C., Derry Station 1891
Cochran, J. C., Big Run 1892
Cohen, S. Solis, Philadelphia 1889
Collins, James, Philadelphia 1868
Connell, J. G., Pittsburg 1882
Connelly, J. P., Williamsport 1890
Coope, A. F., Oil City 1874
Cooper, Alfred M., Point Pleasant 1889
Cooper, W. R., Point Pleasant 1891
Coover, E. H., Harrisburg 1877
Corson, E. M., Norristown 1891
Corson, Hiram, Plymouth Meeting 1847
Craig, Alex., Columbia 1870
Crawford, J. B., Wilkesbarre 1872
Crawford, J. K., Cooperstown 1876
Cunningham, J. G., Kittanning 1883
Curtin, R. G., Philadelphia 1880
Curwen, John, Warren 1870
DaCosta, J. C., Philadelphia 1871
Daland, Judson, Philadelphia 1892
Daly, W. H., Pittsburg 1887
Davis, E. P., Philadelphia 1891
Davis, F. F., S. Oil City 1883
Davis, Thomas D., Pittsburg 1888
Davison, F. B., Fleetville 1885
Dean, G. E., Scranton 1893
Deaver, John Blair, Philadelphia 1889
Dennis, D. N., Erie 1892
Dercum, F. X., Philadelphia 1892
De Schweinitz, G. E., Philadelphia 1890
Detwiler, B. H., Williamsport 1886
Donaldson, J. B., Canonsburg 1884
Dorland, W. A. N., Philadelphia. 1893
Drake, H. H., Norristown 1890
Drysdale, Thomas M., Philadelphia 1873
Duff, J. Milton, Pittsburg. 1892
Duhring, L. A., Philadelphia 1884
Dundor, A. B., Reading. 1873
Dunglison, R. J., Philadelphia 1874
Dunmire, George B., Philadelphia 1884
Dunn, T. D., West Chester 1893
Earley, Charles R., Ridgway 1887
Edsall, F. H., Pittsburg 1891
Eisenberg, P. Y., Norristown. 1891
Ellenberger, J. W., Harrisburg 1884
Erdman, M. S., Richlandtown 1891
Erdman, W. B., Macungie 1880
Ewing, W. B., Dixmont. 1892
Ewing, R. B., West Grove 1881
Faulds, W. H., Luzerne 1892
Fay, John, Altoona 1858
Fenton, T. H., Philadelphia 1884
Findley, W. M., Altoona 1869
Fischer, Emil, Philadelphia 1868
Fisher, H. M., Philadelphia. 1893
Flemimg, J. F., Trout Run 1892
Fletcher, W. W., Susquehanna 1893
Flexer, L. A., Tamanend . . . . .
Forbes, W. S., Philadelphia 1884
Forster, Wm., S. Oil City 1884
Forwood, W. H., Chester 1879
Foster, C. E., Honesdale 1892
Foster, W. S., Pittsburg. 1877

Fox, L. W., Philadelphia. . . . 1887
Frank, G. S., Millheim . . . 1893
Frankhauser, F. W., Reading. . . . 1891
Frazee, A. Blair, Kipple . . . 1889
Free, S. M., Du Bois. . . . 1884
Freeman, W. J., Philadelphia . . . 1892
French, M. S., Philadelphia . . . 1891
Frey, C. L., Scranton . . . 1892
Frichey, John A., Harrisburg . . . 1888
Fricke, Albert, Philadelphia . . . 1872
Friebis, Geo., Philadelphia. . . . 1892
Fullerton, A. N., Philadelphia . . . 1893
Gable, I. C., York . . . 1880
Gaddis, L. S., Uniontown . . . 1884
Gale, C., New Brighton . . . 1892
Gallaher, T. J., Pittsburg . . . 1892
Gardner, H. D., Scranton . . . 1891
Gates, L. M., Scranton . . . 1889
Gemmill, J. M. Jr., Tyrone . . . 1884
Gerhard, J. Z., Harrisburg . . . 1878
Gibb, Jos. S., Philadelphia. . . . 1889
Gibbs, L. H., Scranton . . . 1881
Gibson, Maris, Wilkesbarre . . . 1892
Gilliford, R. H., Allegheny . . . 1883
Given, S. A. Mercer, Clifton Heights . . . 1889
Goode, S. S., Meyersdale . . . 1891
Goodell, W., Philadelphia . . . 1872
Goodman, H. E., Philadelphia . . . 1875
Gould, G. M., Philadelphia . . . 1891
Graham, E. E., Philadelphia . . . 1893
Graham, S., Butler . . . 1878
Grayson, W., Washington. . . . 1892
Green, T., Easton . . . 1853
Green, J. J., Pittsburg . . . 1883
Green, E. M., Easton . . . 1892
Griswold, E., Sharon . . . 1872
Grove, A. P. I., Dallastown. . . . 1891
Grove, J. H., Philadelphia . . . 1867
Guilford, W. M., Lebanon . . . 1888
Guth, M. S., Warren . . . 1883
Hallock, Wm. E., Pittsburg . . . 1892
Halberstadt, A. H., Pottsville . . . 1891
Hall, F. L., New Richmond . . . 1891
Hamaker, W. D., Meadville . . . 1891
Hamilton, B. F., Emlenton . . . 1883
Hammer, Robert B., Greensburg . . . 1889
Hare, H. A., Philadelphia . . . 1889
Harman, G. G., Huntingdon . . . 1890
Harrison, A. C., Meyersdale . . . 1891
Hartsell, W. H., Allentown . . . 1892
Hay, Thomas, Philadelphia . . . 1866
Hazzard, T. L., Allegheny . . . 1892
Hearn, W. J., Philadelphia . . . 1884
Hengst, D. A., Pittsburg . . . 1883
Henry, F. P., Philadelphia . . . 1880
Hermany, P., Mahanoy City . . . 1883
Herr, A. J., Lancaster . . . 1881
Herr, M. L. Lancaster . . . 1880
Highley, G. N., Conshohocken . . . 1892
Hinkle, A. G. B., Philadelphia . . . 1872
Hirst, Barton C., Philadelphia. . . . 1889
Hitzrot, H. W., McKeesport . . . 1887
Hoch, W. R., Philadelphia . . . 1891
Hoffmann, J. H., Pittsburg . . . 1884
Hoffman, Jos., Philadelphia . . . 1889
Hoffman, J. G. Reading . . . 1892
Holmes, E. W., Philadelphia . . . 1889
Holtzapple, G. E., Seven Valleys . . . 1892
Hopkins, W. B., Philadelphia . . . 1889
Hornor, C. W., Philadelphia . . . 1890
Horwitz, Orville, Philadelphia . . . 1892
Hosack, J. P., Mercer . . . 1876
Howard, E. C., Philadelphia . . . 1894
Howell, J. T., Wilkesbarre . . . 1891
Howell, W. G., Philadelphia . . . 1892
Hughes, C. W., Big Run . . . 1892
Hughes, D., Philadelphia . . . 1891
Hughes, J. W., Latrobe . . . 1874
Hughes, M. B., Schickshinny . . . 1888
Hull, A. P., Montgomery Station. . . . 1891
Hulshizer, A. H., Philadelphia. . . . 1889
Huselton, W. S., Allegheny . . . 1872
Huston, J. H., Clintondale . . . 1892
Hummell, A. L., Philadelphia. . . . 1892
Iams, J. T., Waynesburg . . . 1892
Jackson, E., Philadelphia . . . 1884
Jackson, C. L., Pittsburg . . . 1892
Janney, W. S., Philadelphia . . . 1880
Johnson, W. H., Robertsdale . . . 1888
Jones, M. O., Pittsburg . . . 1876
Johnston, W. E., Aetna . . . 1892
Kalb, G. B., Jeddo . . . 1894
Kane, Evan O., Kane . . . 1888
Kearns, W. D., Pittsburg . . . 1885
Keen, W. W., Philadelphia . . . 1891
Keim, C. J., Catasauqua . . . 1892
Kerr, Jas. P., Pittsburg. . . . 1893
Keyser, P. D., Philadelphia . . . 1870
Kimble, Z. E., Liberty . . . 1891
Kirker, John, Allegheny . . . 1883
Kirkpatrick, A. B., Philadelphia . . . 1893
Kistler, O. F., Nesquehoning. . . . 1891
Klingensmith, I. P., Blairsvillle . . . 1878
Kline, W. J. K., Greensburg. . . . 1889
Klump, J. A., Williamsport. . . . 1891
Koeller, F., Pittsburg. . . . 1891
Koenig, A., Pittsburg. . . . 1894
Knapp, C. P., Wyoming . . . 1889
Knipe, J. O., Norristown . . . 1880
Knox, W. F., McKeesport. . . . 1870
Landis, H., Reading . . . 1891
Lange, J. C., Pittsburg . . . 1883
Langfitt, W. J., Allegheny City . . . 1886
Langton, D. J., Shenandoah. . . . 1889

Laplace, E., Philadelphia . . . 1892
Lautenbach, L. J., Philadelphia . . . 1891
Leadenham, J. W., Franklin . . . 1882
Leaman, B., Leaman Place . . . 1872
Leaman, H., Philadelphia . . . 1872
Lee, B., Philadelphia. . . . 1868
Legge, J. H., Pittsburg . . . 1890
Le Moyne, F., Pittsburg . . . 1883
Lineaweaver, J. K., Columbia. . . . 1879
Linn, G. A., Monongahela City. . . . 1874
Lippincott, J. A., Pittsburg . . . 1880
Livingston, J. B., West Middlesex . . . 1874
Livingston, T. M., Columbia. . . . 1876
Logan, H. V. Scranton . . . 1892
Long, Chas., Wilkesbarre. . . . 1893
Longaker, Daniel, Philadelphia. . . . 1892
Longshore, W. R., Hazelton . . . 1884
Love, L. F., Philadelphia . . . 1892
McClelland, C., Philadelphia . . . 1882
McClurg, J. R., West Chester. . . . 1876
McConnell, H. S., New Brighton . . . 1882
McCormick, H. G., Williamsport . . . 1892
McIntire, Charles, Easton . . . 1891
McKelvy, W. H., Pittsburg. . . . 1881
McKelway, G. I., Philadelphia. . . . 1892
McKennan, T. M. T., Pittsburg. . . . 1891
McNeil, G. W., Pittsburg . . . 1882
Magoffin, M. M., Mercer . . . 1891
Marbourg, E. L. W., Johnstown . . . 1886
Marchand, J. I., Irwin . . . 1883
Marsh, F. L., Mt. Pleasant . . . 1881
Martin, Edward, Philadelphia . . . 1890
Massey, G. Betton, Philadelphia . . . 1891
Massey, Isaac, West Chester . . . 1883
Mears, J. Ewing, Philadelphia . . . 1870
Mears, D. W., Audenreid. . . . 1893
Mercer, W. H., Pittsburg. . . . 1892
Miller, A. M., Bird-in-Hand . . . 1880
Miller, D. P., Huntingdon . . . 1872
Miller, Joseph S., York. . . . 1887
Mills, C. K., Philadelphia . . . 1892
Minich, A. K., Philadelphia . . . 1884
Mish, G. F., Middletown . . . 1892
Montgomery, E. E., Philadelphia . . . 1889
Montgomery, John, Chambersburg . . . 1880
Moore, C. C., Philadelphia. . . . 1893
Morton, T. G., Philadelphia . . . 1876
Morton, Thomas S. K., Philadelphia . . . 1889
Mossman, B. E., Greenville . . . 1874
Motter, M. G., Lancaster . . . 1891
Mowery, Henry A., Marietta . . . 1888
Mowry, R. B., Allegheny. . . . 1850
Mullhaupt, A., St. Mary's . . . 1892
Murdoch, J. B., Pittsburg . . . 1875
Murphy, James A., Wilkesbarre. . . . 1878
Musser, Charles S., Aaronsburg. . . . 1887
Musser, J. H., Lampeter. . . . 1880
Musser, John H., Philadelphia. . . . 1889
Nicholson, W. A., Franklin . . . 1892
Noble, C. P., Philadelphia . . . 1891
Nutt, G. D., Williamsport . . . 1884
O'Brien, Wm. D., Pittsburg. . . . 1890
O'Hara, M., Philadelphia. . . . 1878
Oliver, Charles A., Philadelphia. . . . 1890
O'Neal, J. W. C., Gettysburg . . . 1875
Otto, J. V., Port Alleghany . . . 1892
Packard, J. H., Philadelphia. . . . 1878
Painter, Wm. P., Darby. . . . 1889
Paist, H. C., Philadelphia . . . 1892
Pancoast, W. H., Philadelphia . . . 1876
Park, J. W., Harrisburg. . . . 1884
Parke, T. E., Downingtown. . . . 1890
Parvin, T., Philadelphia . . . 1867
Peltz, J., Philadelphia . . . 1885
Pepper, Wm., Philadelphia . . . 1872
Perkins, F. M., Philadelphia. . . . 1887
Pettit, Albert, Pittsburg . . . 1893
Phillips, E., New Haven . . . 1876
Pillow, R. H., Butler . . . 1884
Price, Joseph, Philadelphia . . . 1888
Price, M., Philadelphia. . . . 1891
Pursell, H., Bristol . . . 1889
Putnam, B. H., North East . . . 1892
Putt, Maurice, Oberlin . . . 1892
Rahauser, G. G., Pittsburg . . . 1878
Rahter, C. A., Harrisburg. . . . 1884
Ramsey, R. W., Chambersburg. . . . 1880
Randall, B. A., Philadelphia . . . 1890
Rankin, D. N., Allegheny . . . 1878
Reber, W. M., Bloomsburg . . . 1884
Reeser, H. S., Reading . . . 1884
Richards, J. N., Fallsington . . . 1889
Richardson, Wm. L., Montrose . . . 1863
Rickards, W. M. L., Philadelphia . . . 1874
Riddle, N. V., Burgettstown . . . 1893
Rigg, J. E., Wilkinsburg . . . 1883
Riggs, E. S., Allegheny. . . . 1876
Risley, S. D., Philadelphia. . . . 1891
Ritchey, J. A., Oil City . . . 1876
Roberts, J. B., Philadelphia . . . 1881
Robinson, J. Q., West Newton . . . 1888
Rockwell, LaRue D., Union City . . . 1888
Roebuck, P. J., Lititz . . . 1891
Rosenthal, E., Philadelphia. . . . 1892
Ross, J. D., Williamsburg. . . . 1854
Ross, S. M., Altoona. . . . 1882
Ruschenberger, W. S. W., Philadelphia . . . 1850
Russ, E. I., St. Marys . . . 1884
Russell, E. A., Fleming . . . 1892
Schaffer, C., Philadelphia . . . 1892
Scott, Frank P., Monongahela City . . . 1889
Seem, A. A., Bangor. . . . 1884
Seibert, W. H., Steelton . . . 1888
Seiler, Carl, Philadelphia . . . 1880

Seiss, R. W., Philadelphia . . . 1892
Semple, John, Wilkinsburg . . . 1880
Shaw, Chas. S., Pittsburg. . . . 1892
Shaw, T. W., Pittsburg . . . 1881
Shearer, J. Y., Sinking Spring . . . 1892
Shillito, G. M., Allegheny . . . 1876
Shimwell, B. T., Philadelphia . . . 1890
Shober, J. B., Philadelphia. . . . 1890
Shoemaker, J. V., Philadelphia . . . 1878
Silliman, J. E., Erie. . . . 1884
Simpson, T. P., Beaver Falls. . . . 1884
Slifer, H. F., North Wales . . . 1893
Slocum, H. A., Philadelphia . . . 1893
Small, J. F., York . . . 1891
Smith, S. MacCuen, Philadelphia . . . 1892
Snively, I. N., Waynesboro. . . . 1876
Snively, I. N., Philadelphia . . . 1893
Snively, W., Pittsburg . . . 1880
Snodgrass, H. L., Buffalo. . . . 1892
Spalding, S. C., Shenandoah . . . 1892
Steinbach, L. W., Philadelphia . . . 1889
Stellwagen, T. C., Media. . . . 1884
Stemmetz, E. G., Hokendauqua . . . 1878
Sterrett, J. P., Pittsburg. . . . 1876
Stevens, C. L., Athens . . . 1890
Stewart, D. D., Philadelphia . . . 1892
Stewart, Wm. S., Philadelphia . . . 1876
Stewart, W. S., Wilkesbarre. . . . 1892
Stiles, G. M., Conshohocken. . . . 1876
Stillé, Alfred, Philadelphia . . . 1847
Stoeckel, Louise M., Wilkesbarre . . . 1893
Stout, A., Bethlehem . . . 1891
Straight, A. M. Bradford . . . 1883
Strawbridge, G., Philadelphia . . . 1876
Strickler, A. H., Waynesboro. . . . 1884
Strickler, A. W., Scottdale . . . 1884
Strittmatter, I. P., Philadelphia . . . 1892
Strouss, W. S., Beaver . . . 1892
Sturgeon, W. H., Uniontown . . . 1891
Summerville, J. F., Monroe . . . 1892
Taylor, L. H., Wilkesbarre . . . 1886
Thayer, A. Erie. . . . 1878
Thayer, H. W., Corry . . . 1891
Thomas, C. H., Philadelphia . . . 1891
Thomas, J. D., Pittsburg . . . 1880
Thomson, Wm., Philadelphia . . . 1892
Thorne, J. M., McKeesport. . . . 1892
Tidd, E. J., Clark . . . 1891
Towler, S. S., Marienville. . . . 1892
Tracy, E. G., Troy. . . . 1889
Treichler, C. G., Honey Brook . . . 1880
Tweedle, J. B., Weatherly . . . 1883
Twitmyer, J. H., Sharpsville. . . . 1884
Tyson, James, Philadelphia . . . 1876
Ulrich, W. B., Chester. . . . 1875
Unger, D. F., Mercersburg . . . 1880
Van Kirk, T. R., McKeesport. . . . 1890
Vastine, J. H., Catawissa . . . 1876
Vincent, J. R., Pittsburg . . . 1890
Wagoner, G. W., Johnstown . . . 1892
Walker, J. B., Philadelphia . . . 1884
Walter, H. B., Harrisburg . . .
Watson, R. B., Lock Haven . . . 1892
Weaver, J. K., Norristown . . . 1878
Weaver, W. G., Wilkesbarre . . . 1880
Weidman, W. M., Reading . . . 1876
Welch, W. M., Philadelphia . . . 1872
Welchaus, G. R., Lancaster . . . 1884
Wentz, A. C., Hanover . . . 1893
Werder, X. O., Pittsburg . . . 1890
Werner, Marie B., Philadelphia . . . 1890
Whann, W. L., Franklin . . . 1883
Wible, E. E., Munhall . . . 1892
Willard, DeForest, Philadelphia . . . 1880
Williams, W. L., Ridgway . . . 1883
Williams, Roger, Pittsburg . . . 1882
Williams, T. R., De Lancey . . . 1893
Williams, W. T., Mt. Carmel . . . 1890
Wilson, C. A., DuBois . . . 1893
Wilson, C. G., St. Mary's . . . 1884
Wilson, F. S., Jarrettown . . . 1885
Wilson, J. C., Philadelphia . . . 1884
Wilson, J. S., Beaver . . . 1882
Wireback, I. J., St. Petersburg . . . 1883
Wolfe, Samuel, Philadelphia . . . 1890
Wolff, L., Philadelphia . . . 1887
Wood, A. C., Philadelphia . . . 1893
Wood, C. B., Monongahela City . . . 1882
Wood, E. A., Pittsburg . . . 1870
Woods, Matthew, Philadelphia . . . 1892
Woodbury, F., Philadelphia . . . 1877
Worrell, J. W., Brownsville . . . 1883
Yarrow, T. J., Philadelphia . . . 1892
Young, T. J., Titusville . . . 1874
Ziegler, G. J., Philadelphia . . . 1853
Ziegler, I. L., Mount Joy . . . 1891
Ziegler, S. L., Philadelphia . . . 1893

RHODE ISLAND

Briggs, Alex. B., Ashaway . . . 1889
Carr, Geo. W., Providence . . . 1889
Collins, Geo. L., Providence . . . 1889
Farrell, J. T., Providence . . . 1890
Fifield, M., Centreville . . . 1880
Fisher, C. H., Providence . . . 1858
Forsythe, F. L., Providence . . . 1892
French, Chas. H., Pawtucket . . . 1893
Fuller, Frank B., Pawtucket . . . 1889
Gardiner, H. K., Wakefield . . . 1889
Gardner, C. T., Providence . . . 1880
Hunt, S., E. Providence . . . 1885
Keene, Geo. F., Howard . . . 1889
Kenyon, G. H., Providence . . . 1884

Kingman, Eugene, Providence 1889
Miller, H. G., Providence 1891
Mitchell, J. W., Providence 1889
Palmer, W. H., Providence 1889
Remick, A., Providence 1881
Siegfried, C. A., Newport 1892
Shaw, R. H. R., Thornton 1892
Sherman, W. S., Newport 1889
Storer, H. R., Newport 1878
Thoms, J. Aymer, Olneyville 1892
Traver, W. H., Providence 1880
Turner, H. E., Newport 1889

SOUTH CAROLINA

Baily, T. P., Georgetown 1884
Brodie, R. L., Charleston 1891
Croft, T. J., Aiken 1870
De Saussure, P. G., Charleston 1890
Doyle, O. M., Seneca 1892
Du Bose, D. St. Pierre, Ridge Spring 1892
Evans, James, Florence 1881
Huger, W. H., Charleston 1884
Kendall F. D., Columbia 1892
Kollock, C. W., Charleston 1885
McCoy, Thos. N., Laurens 1890
McIntosh, J., Newberry 1891
McKie, T. J., Woodlawn 1883
Moore, A. A., Camden 1890
Orr, Sam'l M., Anderson 1889
Simons, Manning, Charleston 1870
Stephens, L. C., Blackville 1892
Talley, A. N., Columbia 1858

TENNESSEE

Atchison, T. A., Nashville 1890
Atchison, W. A., Nashville 1890
Barkley, T. C. V., Chattanooga 1890
Beaumont, C. W., Clarksville 1890
Bilbro, Wm. C., Murfreesboro 1893
Black, J. H., Memphis 1885
Bonner, M. H., Nashville 1890
Boyd, John M., Knoxville 1857
Bradley, J. L., Sugar Tree 1890
Branch, B. L., Rossville 1892
Briggs, W. T., Nashville 1869
Buist, John R., Nashville 1890
Cain, John S., Nashville 1890
Callender, Jno. H., Nashville 1887
Carmichael, J. W., Knoxville 1890
Cheatham, Richard, Nashville 1887
Cliffe, D. B., Franklin 1890
Cole, J. D., Newbern 1890
Coop, W. A. H., Lawrenceburg 1883
Cooper, J. H., McEwen 1893
Cox, J. B., Huntington 1890
Cowan, J. B., Tullahoma 1892
Crawford, J. Y., Nashville 1886
Crockett, S. S., Nashville 1890
Crook, J. A., Jackson 1885
Crosthwait, G. W., Florence Station 1890
Curtis, W. E., McKenzie 1890
Doak, W. H., Russellville 1890
Drake, C. M., Knoxville 1891
Ewing, W. G., Nashville 1886
Foute, Wm. T., Lenoir City 1885
Fowler, S. B., Gainesboro 1892
Franklin, W. E., La Grange 1892
Gillespie, G. B., Covington 1886
Gist, D. R., Sparta 1890
Glenn, W. F., Nashville 1880
Grainger, R. A., Paris 1890
Haggard, W. D., Nashville 1885
Handly, J. N., Nashville 1893
Hanner, Jas. P., Franklin 1890
Happel, T. J., Trenton 1888
Harris, J. E., Nashville 1890
Harris, W. A., Somerville 1890
Harrison, W. B., Columbia 1890
Harron, John I., Jackson 1890
Haywood, Jr., J. G., Brownsville 1890
Holtzclaw, C., Chattanooga 1890
Hubbard, G. W., Nashville 1890
Jones, James T., Jackson 1890
Lenoir, B. B., Lenoir's 1840
Lindsley, J. B., Nashville 1851
Lovelace, C. H., Dukedom 1890
McCall, J. W., Huntington 1890
McMasters, D. H., Memphis 1890
McSwain, I. A., Paris 1890
Maddin, Thos. L., Nashville 1890
Marable, T. H., Clarksville 1890
Menees, O. H., Nashville 1890
Menees, T., Nashville 1890
Miller, W. J., Johnson City 1890
Mitchell, R. W., Memphis 1879
Moody, G. W., Shelbyville 1890
Morrison, S. J., Memphis 1882
Murfree, J. B., Murfreesboro 1873
Murrell, T. C., Winchester 1892
Neely, J. J., Bolivar 1890
Nelson, D. E., Chattanooga 1890
Nowlin, J. S., Shelbyville 1890
Omohundro, O. C., Nashville 1890
Orr, W. M., Shelbyville 1890
Pearce, D. M., Union City 1890
Powell, T. K., Eurekaton 1885
Price, Geo. H., Nashville 1890
Ramsey, A. B., McMinnville 1892
Ransom, Wm. C., Farmington 1890
Rathmell, J. R., Chattanooga 1890
Richardson, N. D., Nashville 1890
Robinson, G. L., Lebanon 1890
Rochelle, W. F., Jackson 1890
Runyon, F. J., Clarksville 1890
Sale, E. P., Memphis 1879
Sanford, S. W., Union City 1891
Saunders, D. D., Memphis 1884
Savage, G. C., Nashville 1885
Scates, D. W., Greenfields 1890
Scruggs, A. D., Knoxville 1892
Seay, John, Nashville 1890
Sebastian, C. M., Martin 1890
Shannon, J. D., Greenfield 1890
Shannon, J. E., Sharon 1890
Sheddan, W. K., Williamsport 1890
Shields, David E., Morristown 1888
Sim, F. L., Memphis 1884
Sinclair, A. G., Memphis 1885
Slayden, C., Warner 1887
Smith, F. T., Chattanooga 1890
Snodgrass, J. H., Sparta 1890
Stephens, J. B., Nashville 1890
Tate, H. W., Bolivar 1890
Taylor, W. W., Memphis 1886
Thornton, G. B., Memphis 1877
Trawick, A. M., Nashville 1890
Van Deman, J. H., Chattanooga 1893
Vaught, R. A., Chattanooga 1893
Walker, J. P. C., Dyersburg 1890
Warmuth, H. J., Smyrna 1887
Watkins, G. H., Hollow Rock 1890
Weldon, A. J., Paris Landing 1877
Woodson, L. Miller, Gallatin 1890
Wood, I. H., Nashville 1890
Wright, W. M., Huntingdon 1890
Yarborough, L. A., Covington 1890
Young, W. B., Bon Air Coal Mines . . . . .

TEXAS

Adams, Wm. A., Ft. Worth 1887
Archer, W. A., Houston 1885
Ashton, L., Dallas 1881
Barker, W. L., San Antonio 1891
Beall, E. J., Ft. Worth 1884
Bell, T. J., Tyler 1892
Blake, Daniel B., Cuero 1885
Braunargel, J., San Antonio 1892
Burroughs, S. R., Raymond 1885
Burts, W. P., Ft. Worth 1885
Carhart, J. W., La Grange 1884
Carter, Robt. H., Waco 1890
Caston, W., Corsicana 1885
Chilton, R. H., Dallas 1885
Christian, G. W., Burnet 1880
Coleman, P. C., Colorado 1892
Cornick, B., Knickerbocker 1886
Cupples, G., San Antonio 1884
Darr, H. H., Caldwell 1883
Dial, J. J., Sulphur Springs 1885
Duringer, W. A., Ft. Worth 1890
Eads, B. F., Marshall 1890
Eastland, O., Wichita Falls 1885
Emanuel, M. T., Weatherford 1891
Ford, F. C., Nacogdoches 1885
Garnett, J. W., Greenville 1886
Ghent, H. C., Belton 1882
Gibson, John E., McKinney 1890
Hale, G. V., Wheatland 1894
Herff, F., San Antonio 1885
Inge, J. M., Denton 1892
Jones, W. T., Georgetown 1885
Jones, J. C., Gonzales 1885
Jordan, J. D., Madisonville 1885
Kendall, O. J., Wichita Falls 1893
Kingsley, B. F., San Antonio 1886
Kirkpatrick, D. F., Waketon 1892
Knox, M. D., Hillsboro 1883
LeGrand, C. W., Hempstead 1886
Link, E. W., Palestine 1892
McCuistion, L. P., Paris 1893
McGee, J. A., Rice 1885
McLaughlin, J. W., Austin 1884
Matthews, C. O., Terrell 1892
Montgomery, D. W., Concord 1892
O'Bryan, A. F., Longview 1892
Oldham, J. P., San Antonio 1888
Paine, J. F. Y., Galveston 1885
Park, R. W., Waco 1884
Paschal, F., San Antonio 1888
Perl, M., Houston 1885
Pope, John H., Marshall 1875
Renfro, J. C. B., La Grange 1886
Saunders, B., Ft. Worth 1885
Sears, J. H., Waco 1881
Sims, R. S., Iowa Park 1892
Smith, H. R., Detroit 1892
Smith, C. A., Tyler 1892
Smith, Q. C., Austin 1885
Stinson, J. B., Sherman 1885
Taylor, M. A., Austin 1874
Thorpe, H. H., Liberty Hill 1890
Tyner, T. J., Austin 1885
Van Gasken, J., Luling 1889
Walker, W. W., Schulenberg 1885
Webb, J. E., Blue Ridge 1892
West, H. A., Galveston 1892
Wilkes, W. H., Waco 1891
Wilson, J. T., Sherman 1873
Wolf, A. S., Brownsville 1890
Wooten, T. D., Austin 1882

UTAH

Bascom, Francis S., Salt Lake City 1889
Clift, Frederic, St. George 1894
Gage, Ellen C., Salt Lake City 1887
Jones, P. E., Salt Lake City 1887
Meaham, F. A., Salt Lake City 1894
Meyer, T., Salt Lake City 1894
Niles, H. D., Salt Lake City 1894
Pinkerton, S. H., Salt Lake City 1894

VERMONT

Albee, E. S., Bellows Falls 1893
Blake, Wellman C., Lyndon 1894
Campbell, E. R., Bellows Falls 1880
Caverly, C. S., Rutland 1892
Chandler, C. E., Montpelier 1892
Crain, M. R., Rutland 1887
Davenport, George, East Randolph 1889
Dunsmore, George, St. Albans 1882
Fox, Geo. H., Rutland 1894
Hamilton, J. H., Richford 1891
Hawley, D. C., Burlington 1891
Holton, Henry D., Brattleboro 1864
Huntington, Wm. M., Rochester . . . . .
Hutchinson, W. R., Enosburg Falls 1877
Janes, Henry, Waterbury 1871
Jenne, J. N., St. Albans 1892
Morgan, F. C., Felchville 1894
Rugg, D. F., Hartland 1885
Upham, E. F., West Randolph 1884
Woodward, A. T., Brandon 1853

VIRGINIA

Booth, Chas., Alexandria . . . . . .
Brown, B., Alexandria 1891
Cannaday, C. G., Roanoke City 1891
Carter, D. D., Woodstock 1891
Chancellor, J. E., Charlottesville 1875
Christian, W. S., Urbana 1891
Cooper, W. D., Morrisville 1884
Dabney, W. C., University Station 1875
Drewey, W. F., Petersburg 1891
Edwards, Landon B., Richmond 1879
Flannagan, L. E., Charlottesville 1891
Gibson, J. S. P., Staunton 1881
Gibson, Wm., Alexandria 1884
Gildersleeve, J. R., Tazewell 1892
Goodwin, B. C., Frederick's Hall 1890
Hardee, P. R., Virgilina 1886
Harvie, L. E., Danville 1881
Hinton, S. A., Petersburg 1881
Horner, F., Marshall 1884
Keister, B. C., South Boston 1892
Leigh, H. G., Petersburg 1881
Love, W. S., Winchester 1881
McGuire, H., Richmond 1872
Martin, R. W., Chatham 1879
Meeks, W. D., Massie's Mill 1892
Moncure, J. D., Williamsburg 1892
Nash, H. M., Norfolk 1879
O'Brien, M. W., Alexandria 1891
Parker, W. W., Richmond 1891
Perry, T. B., U. S. M. H. S., Fortress Monroe 1891
Preston, R. J., Marion 1891
Shields, C. M., Richmond 1891
Taylor, H. M., Richmond 1891
Tipton, Joseph S., Allisonia 1875
Wellford, J. S., Richmond 1876
Wheat, Louis, Richmond 1893
White, J. A., Richmond 1870
Wood, E. N. Buchanan 1886

WASHINGTON

Anderson, W. L., Medical Lake 1894
Bell, Frank M., Kelso 1890
Bridenstine, S. J., Sidney 1883
Bories, Emil, Seattle 1893
Brown, W. F., Tacoma 1892
Cobb, J. O., Port Townsend 1892
Eagleson, J. B., Seattle 1891
Essig, N. F., Spokane Falls 1875
Lyon, J. H., Roslyn . . . . . .
Mason, Darius, Spokane Falls 1876
Merriam, C. K., Spokane 1894
Newman, D. C., Spokane Falls 1892
Pfettzycki, M., Dayton 1893
Semple, J. M., Medical Lake 1892
Willison, H. C., Port Townsend 1892
Wilson, G. B., Pullman 1894
Wyman, H. S., Olympia 1894

WEST VIRGINIA

Aschman, G. A., Wheeling 1891
Baguley, H. B., Wheeling 1883
Blutbaugh, C. B., Parkersburg 1891
Brock, Luther S., Morgantown 1888
Brownfield, J. H., Fairmount 1884
Cook, J. R., Montana Mines 1892
Cooper, J. M., Wellsburg 1870
Cotton, J. T., Charleston 1892
Dent, Wm. M., Newburg 1870
Guthrie, Alex., Glenelk 1882
Hall, R. W., Moundsville 1883
Hood, Thomas M., Weston 1888
Howell, F., Clarksburg 1885
Jep-on, S. L., Wheeling 1884
Jones, H. B., Wheeling 1891
Kendall, J. E., Parkersburg 1872
Morgan, D. P., Clarksburg 1885
Sharp, Wesley H., Parkersburg 1889
Thayer, A. H., Grafton 1892
Ulrich, C. F., Wheeling 1890
Wilson, L. D., Wheeling 1883

WISCONSIN

Abaly, W. C., Madison 1893
Armstrong, L. G., Boscobel . . . . . .
Atwell, W. F., Stevens Point 1893
Babcock, I. G., Cumberland 1893
Back, Jas. A., Milwaukee 1893
Bacon, J. E., Waukesha 1893

Ballard, J. A., La Crosse . . . 1893
Barnett, J. R., Neenah . . . 1893
Bartlett, E. W., Milwaukee . . . 1893
Bell, S., Beloit . . . 1880
Boorse, Lorenzo, Milwaukee . . . 1893
Borden, W. H., Milton . . . 1888
Brett, B. C., Green Bay . . . 1893
Brodsky, F. A., Racine . . . 1892
Buck, E. J., Platteville . . . 1888
Budge, W. H., Marshfield . . . 1893
Bullard, E. L., Waukesha . . . 1893
Burgess, A. J., Milwaukee . . . 1892
Caldwell, Margaret, Waukesha . . . 1888
Catlin, Geo. E., Lake Geneva . . . 1880
Cavaney, J., Milwaukee . . . 1887
Chase, R. R., Eau Claire . . . 1890
Chandler, Ralph, Milwaukee . . . 1893
Chrysler, Oscar, Milwaukee . . . 1893
Clarke, A., Sheboygan . . . 1882
Coates, J. T., Milwaukee . . . 1893
Collins, D. B., Madison . . . 1887
Comfort, A. I., Milwaukee . . . 1893
Coon, J. W., Milwaukee . . . 1893
Connell, M. E., Wauwatosa . . . 1893
Copeland, E., Milwaukee . . . 1893
Currens, J. R., Two Rivers . . . 1893
Dawley, Geo. I., New London . . . 1887
Dawley, J. H., Plymouth . . . 1892
Day, D. W., Eau Claire . . . 1892
Day, Henry L., Eau Claire . . . 1887
Deahofe, S. P., Mineral Point . . . 1883
Dodson, B. F., Berlin . . . 1898
Dodson, N. M., Berlin . . . 1872
Dorland, James, Milwaukee . . . 1877
Doyle, James F., Antigo . . . 1892
Drexel, Arnold, Milwaukee . . . 1893
Dudley, E. H., Janesville . . . 1882
Durr, Wm. E. Milwaukee . . . 1893
Earles, W. H., Milwaukee . . . 1891
Earll, R. W., Columbus . . . 1884
Eastman, W., Mineral Point . . . 1882
Edwards, J. B., Manston . . . 1883
Ellis, W. H., Barron . . . 1897
Emmons, J. W., Sparta . . . 1887
Everhard, F. A., Ripon . . . 1890
Farnham, A. B., Milwaukee . . . 1892
Fish, E. F., Milwaukee . . . 1892
Fisk, M. H., Wauwatosa . . . 1882
Fitzgibbon, Thos., Plymouth . . . 1892
Fortier, C. A., Florence . . . 1892
Fox, P. R., Madison . . . 1894
Fox, P., Madison . . . 1877
Fox, Wm., Milwaukee . . . 1876
French, S. W., Milwaukee . . . 1883
Franklin, L. D., Milwaukee . . . 1893
Gage, M. R., Sparta . . . 1881
Garlock, F. R., Racine . . . 1884
Gratiot, C. C., Schullsburg . . . 1888
Graethinger, A., Milwaukee . . . 1876
Gregory, D. M., Stevens Point . . . 1888
Grider, A. B., Milwaukee . . . 1893
Guclex, Val A., Milwaukee . . . 1893
Gudden, Bernard C., Oshkosh . . . 1887
Guernsey, A. H., Amherst . . . 1887
Hall, S. S., Ripon . . . 1893
Hansmann, Wm. Kewaskum . . . 1878
Hardacker, H., Hortonville . . . 1893
Harrison, G. W., Ashland . . . 1893
Hawley, Robt. N., Milwaukee . . . 1887
Hay, Thos. H., Milwaukee . . . 1893
Hayes, D. J., Milwaukee . . . 1893
Hayman, E. H., Boscobel . . . 1887
Hayward, John C., Marshfield . . . 1887
Hidershide, G. N., Arcadia . . . 1881
Hill, W. B., Milwaukee . . . 1893
Hitz, Henry B., Milwaukee . . . 1892
Hodgson, A. J., Palmyra . . . 1893
Hosmer, Andrew, Ashland . . . 1892
Hougen, Ole T., Grand Rapids . . . 1893
Howard, A. Z., Dartford . . . 1892
Howard, J. I. D., Keshena . . . 1894
Jacobs, Benj. M., Waukesha . . . 1893
Jameson, Thos., Two Rivers . . . 1893
Jenkins, Geo. W., Kilbourn City . . . 1878
Jobse, Wm., Milwaukee . . . 1893
Johnson, Sam C., Hudson . . . 1882
Johnson, H. P., La Crosse . . . 1887
Kahn, Jas., Milwaukee . . .
Kaumheimer, G. J., Milwaukee . . . 1891
Kean, N. L., La Crosse . . . 1884
Kelly, E. J., Milwaukee . . . 1893
Kellogg, E. W., Milwaukee . . . 1893
Kermott, E. P., Richland Centre . . . 1893
Knapp, L. L., New Richmond . . . 1893
LaCount, D., Wausau . . . 1873
Ladd, G. D., Milwaukee . . . 1892
Langland, P., Milwaukee . . . 1893
Lawrence, J. C. H., Oconto . . . 1893
Lemon, C. H., Milwaukee . . . 1893
Levings, A. H., Milwaukee . . . 1892
McArthur, Daniel S., La Crosse . . . 1887
McBride, J. H., Wauwatosa . . . 1893
McComb, I. N., Brillhon . . . 1893
McDill, J. R., Milwaukee . . .
McDonald, E. M., Beaver Dam . . . 1887
McGovern, W. P., Cedarburg . . . 1892
Mackie, W., Milwaukee . . . 1888
Mailer, A. C., De Pere . . . 1893
Malone, Ed., Waukesha . . . 1893
Malone, E. W. F., Milwaukee . . . 1893
Marks, S., Milwaukee . . .
Meacham, J. G., Racine . . . 1886
Meacher, W., Portage . . . 1893
Mead, S. W., Plymouth . . . 1893
Mears, G. V., Fond du Lac . . . 1893
Mereness, D., Milwaukee . . . 1893
Miller, D. McL., Oconomowoc . . . 1887
Mishoff, I. D., Milwaukee . . . 1893
Moore, D. W., Waupun . . . 1887
Moorehouse W. D., Wauwatosa . . . 1893
Neilson, W. H., Milwaukee . . . 1892
Neyman, E. H., Milwaukee . . . 1893
Noer, Julius, Stoughton . . . 1893
Nolte, L. G., Milwaukee . . . 1893
Noyes, J. C., Oshkosh . . . 1893
Nye, Fred. T., Beloit . . . 1887
O'Brien, J. N., Milwaukee . . . 1877
O'Keefe, P., Oconto . . . 1892
Ottilie, C., La Crosse . . . 1884
Oviatt, C. W., Oshkosh . . . 1893
Palmer, H., Janesville . . . 1876
Palmer, Edgar, La Crosse . . . 1893
Pelton, L. H., Waupaca . . . 1893
Pfeiffer, C. W., Sheboygan Falls . . . 1893
Perry, F. J., Ft. Atkinson . . . 1893
Philler, H., Waukesha . . . 1887
Phillips, J., Stevens Point . . . 1884
Prees, G. W., Cambria . . . 1893
Puls, A. J., Milwaukee . . . 1892
Reed, W. A., Necedah . . . 1892
Reeve, J. T., Appleton . . . 1877
Reilly, J. R., Appleton . . . 1892
Reineking, H., Sheboygan . . . 1891
Reynolds, B. O., Lake Geneva . . . 1888
Reynolds, F. R., Eau Claire . . . 1892
Richter, Conrad, Ashland . . . 1893
Riddell, S. S., Chippewa Falls . . . 1884
Riley, C. P. Baraboo . . . 1892
Rinehart, W. T., Ashland . . . 1891
Ritchie, G. A., Manawa . . . 1893
Rogers, F. C., Milwaukee . . . 1893
Rood, G., Stevens Point . . . 1888
Russell, T. P., Oshkosh . . . 1873
Sauerhering, A. T., Mayville . . . 1887
Schiller, L., Milwaukee . . . 1893
Schneider, J., Milwaukee . . . 1892
Schorse, W., Milwaukee . . . 1893
Schweichler, A. J., Milwaukee . . . 1893
Schoen, A. F., Mayville . . . 1893
Scollard, J. T., Milwaukee . . . 1893
Seaman, G. E., Milwaukee . . . 1893
Sears, H. B., Beaver Dam . . . 1893
Seiler, Geo., Alma . . . 1888
Sercomb, H. F., Milwaukee . . . 1893
Sheldon, C. S., Madison . . . 1893
Shimonek, F., Milwaukee . . . 1893
Simms, J. R., Racine . . . 1893
Slaughter, A. W., Green Bay . . . 1893
Snyder, A. F., Baraboo . . . 1893
Sommerville, J. A., Marinette . . . 1893
Southwick, F. A., Stevens Point . . . 1893
Sperry, S. B., Milwaukee . . . 1893
Stansbury, E., Appleton . . . 1882
Steele, Geo. M., Oshkosh . . . 1877
Stoelting, C. W., Oconto . . . 1893
Summers, T. O., Waukesha . . . 1893
Sweeney, W., Milwaukee . . . 1892
Syoldriski, J. V., Milwaukee . . . 1893
Tanner, H. B. S., Kaukauna . . . 1888
Thrane, A. D. H., Eau Claire . . . 1880
Tower, F., Milwaukee . . . 1893
Townsend, E. H., New Lisbon . . . 1887
Trowbridge, J. B., Hayward . . . 1892
Vincent, G. R., Tomah . . . 1887
Von Neupert, C., Stevens Point . . . 1893
Walbridge, J. S., Berlin . . . 1893
Walbridge, F. E., Milwaukee . . . 1892
Wall, H. J., Richland Center . . . 1882
Washburn, W. H., Milwaukee . . . 1892
Waterman, O. M., Milwaukee . . . 1893
Wegge, W. F., Winnebago . . . 1894
Wells, W. H., Marshfield . . . 1893
Wengel, H. P., Milwaukee . . . 1893
Wever, F. R., Milwaukee . . .
Whiting, J. B., Janesville . . . 1891
Whyte, W. F., Watertown . . . 1891
Wigginton, R. M., Waukesha . . . 1882
Wingate, U. O. B., Milwaukee . . . 1886
Witter, G. F., Grand Rapids . . . 1887
Würdemann, H. V., Milwaukee . . . 1892
Youmans, L. E., Mukwonago . . . 1892
Zeit, F. R., Medford . . . 1890

WYOMING

Stuver, E., Rawlins . . . 1890

SOCIETY NEWS.

The Illinois State Medical Society.

Abstract of the Proceedings of the Forty-fourth annual meeting held at Decatur, May 15, 16 and 17, 1894.

FIRST DAY—MORNING SESSION.

The Society convened in Powers Opera House, and was called to order by the President, Dr. O. B. Will, of Peoria, at 9:30 A.M.

Prayer was offered by the Rev. W. H. Penhallegon.

The reports of the Executive Committee, Committee of Arrangements, and Committee on Registration were read and accepted.

Section 1.—Chairman, Dr. T. J. Pitner, Jacksonville; Secretary, Dr. H. McKennan, Paris.

DR. J. FIREBAUGH, of Robinson, read a paper entitled

MISTAKES AND SURPRISES IN GENERAL PRACTICE.

The paper consisted of a report of several instructive cases. The essayist said the errors of the physician lived on in his memory, while his patients may be covered up in the ground. It has been his observation during almost twenty years' country practice, that the cases in the management of which he had been conscious of some error, either in diagnosis, prognosis, treatment or general management, however hard it may have been on the patients, were just the ones of which he had thought the most, and therefore just the ones which had been the most instructive to him.

DR. N. S. DAVIS, JR., of Chicago, contributed an interesting paper on "Diabetes Mellitus—Some Statistics." He illustrated his remarks with charts.

ARTERIO-SCLEROSIS,

Was the title of a paper read by DR. FRANK BILLINGS, of Chicago.

This is a chronic degenerative and inflammatory disease of the vascular system, with secondary changes in other organs. Gull and Sutton were the first to describe it as an independent affection. The disease may involve the arteries alone, or it may implicate the veins and capillaries as well. It may be local or general in its manifestations, be confined to the aorta or to the whole arterial system. Involvement of the pulmonary system is rare, and secondary always to lung or heart disease. Arterio-sclerosis is essentially a disease of old age, and is rarely found before the age of 40. According to Nothnagel, arterio-sclerosis occurring before the fortieth year is always due either to syphilis or nephritis.

The treatment must vary with the part of the body involved. Much may be done to retard or modify the disease before irreparable damage is done, and especially in the gouty form of the affection. A diet suitable to the case must be selected. This will consist of the nitrogenous elements chiefly, in some cases, and in others of the cereals and hydrocarbons. When the kidneys are involved a diet as free as possible from urea-forming products should be chosen. In all cases it is important that the existing malnutrition should be overcome by an abundance of proper food. Milk in generous quantities is the food *par excellence* for all patients. If necessary to aid its digestion, it may be

freed from the cream, even diluted with water or peptonized. Excretion should be maintained by giving a large amount of fluid. In addition to the milk a pure water should be taken when the stomach is empty. In all cases it is essential to restore nutrition, and if the diet, medication and general hygienic management are directed to that end much will be accomplished in retarding the course of the disease. Dr. Billings closed his paper with a report of four cases which illustrated some of the conditions peculiar to arteriosclerosis.

FIRST DAY—AFTERNOON SESSION.

Section called to order by the Chairman.

DR. J. T. STEWART, of Peoria, read a paper on

THE MEDICAL PROFESSION.

He said that the practice of medicine is not a science but an art founded upon many sciences. The general impression of the profession, and through it of the laity, that about all that is of value has been acquired in the last fifty years, is a mistake. His personal knowledge extends back forty-seven years, and while he grants many improvements have been made since then, the profession was then on bed rock and fully up to the condition of science at that time. The standard remedies of that day are standard remedies now. Quite a number of invaluable ones have been added since, but not one of the old remedies had been displaced to his knowledge. Practitioners should adapt themselves to the age in which they live.

DR. J. L. REAT, of Tuscola, followed with a paper on

ATROPIA IN SOME FORMS OF GENITO-URINARY DISEASE.

He said that if there is irritability of the bladder, the condition where the desire to micturate comes on suddenly and very frequently, so that a patient is compelled to pass his urine every thirty or sixty minutes, the local use of atropia relieves the urgency of the case promptly. What is known as Ludham's formula was given, and is:

℞ Atropia . . . . . gr. i.
Aconitin. . . . . grs. iss.
Oil Tiglii . . . . . gtts. ij.
Petrolati. . . . . ℥iv.

Apply as much as the size of a pea.

Where the urethra is the seat of the trouble, the essayist uses a forcible catheter with piston attachment, filling the eye of the instrument with the medicament, introducing it into the bladder, then as it is withdrawn, presses out the ointment.

DR. W. C. BOWERS, of La Place, reported an interesting case of aortic regurgitation with symptoms obscuring severe acute pericarditis.

THE PROVISIONAL TREATMENT OF INSANITY.

This was the title of a paper read by DR. SANGER BROWN, of Chicago, in which he said the purpose of the paper was to draw the attention of the general practitioner to the considerations which should prompt him in reaching a decision as to the course to be taken in the treatment of insanity when cases occur in his practice. Those who had studied closely the problem of treatment of insanity in hospitals, had found that quite a considerable proportion of cases under hospital treatment, with what the term usually implies, had been aggravated and the symptoms perpetuated. The associations are certainly to some extent harmful in nearly all cases, and particularly so in the earlier and more curable forms of the disease.

The ideal way of treating a case of insanity consists in having spacious quarters and grounds sufficiently isolated, plenty of experienced attendants and competent medical supervision, and only sane associates, no other insane person on the premises. All desirable forms of mental tonics should be available, including traveling and sojourns at watering places. The author had seen incurable cases taken from the best asylums of the world and treated along these lines with very satisfactory results.

DR. J. B. MAXWELL, of Mount Carmel, read a paper on

EPILEPSY AND ITS TREATMENT.

After defining the disease and dealing with the causes, the author dwelt upon the treatment. Associations of a pleasant character have a very favorable effect upon patients suffering from this disease, and he knew of cases that were much relieved by being taken away from discordant home surroundings and placed in a hospital or boarded in a private family where the environments are more agreeable.

The medicinal treatment may be confined to the bromids, and of the various bromids the salt of potassium he considers the best. The amount and time of administration must be regulated by the age of the patient, frequency and time of the fits. In nocturnal epilepsy a dram dose at bedtime often does the best. In the diurnal form of the disease a scruple, three times daily for adults; for children proportionately less. The best and safest rule is to continue the medicine in the smallest doses that will control the disease.

The author urged the establishment of homes or retreats where these unfortunates can be taken care of and treated in order that they might be cured, if curable, and if not, their condition ameliorated and their intellectual decay prevented.

DR. CARL E. BLACK, of Jacksonville, read a paper on

PHYSICAL EXERCISE AS A THERAPEUTIC AGENT.

He said that many of the ills of humanity came from faulty physical development due to neglected or perverted physical exercise. It behooves the medical profession to become an educator in the matter of physical exercise to develop health. The field for usefulness for exercise as a therapeutic agent is a broad one, if it is properly prescribed. The statistics of Amherst College show a low sick rate where systematic exercise is carried out. Authorities differ, however, somewhat as to the amount of exercise required daily by a well developed adult. It is said that a healthy adult of five feet six inches in height, and weighing from 130 to 140 pounds, should take an amount of physical exercise which is equivalent to a walk of eight miles.

DR. C. BARLOW, of Eaton, read a paper entitled

RHEUMATIC SPINAL AFFECTIONS.

In consulting the literature on this subject, he had found reports of cases of rheumatism of almost every part of the body, but rheumatic affections of the spinal cord, its meninges and nerves had not been much written about. In all cases of rheumatism, where there is marked tenderness over the spinous processes, together with exaggerated reflexes, there is a disordered condition of the spinal cord and its nerves. He had noticed this in old soldiers who contracted rheumatism while in the service, and in sixty-four consecutive cases forty-two had tenderness of the spine, and thirty-two had disturbances of patellar tendon reflexes. Twenty-five of the number had increased knee jerk on both sides, three on one side, and in two the knee jerk was diminished. Forty-one of them had a heart murmur.

Treatment.—Hygienic management, flannel or silk underclothing, traveling, suitable climate, warm baths, laxatives, alteratives, as an occasional dose of mercury or colchicum and the iodid of potash, or nitric acid after meals, continued for several weeks. For the relief of pain salol, phenacetin, antikamnia, etc., should be used. Electricity, tonics and codliver oil in some cases, and above all the patient should be regular in his habits and avoid unnecessary exposure.

DR. GEO. F. BUTLER, of Chicago, read an interesting paper entitled,

ELEMENTS OF UNCERTAINTY IN THERAPEUTICS.

Many of our failures in treatment can be attributed to an incorrect diagnosis. Assuming, however, that a correct diagnosis of the condition of the patient has been made, what then are the elements of uncertainty in therapeutics?

A very common and almost universal practice of prescribing ready-made preparations, which masquerade under a copyrighted name which can claim but the faintest relationship to their empirical constitution, is one of the greatest elements of uncertainty in modern therapeutics. The thousands of proprietary articles on the market are unworthy the distinction of being prescribed by the medical profession. "They are directly at variance with scientific progress, their promoters have contributed absolutely nothing of value, and had they never existed, medicine and pharmacy would have reached a higher plane in the development of science." Every physician knows this, yet there is not a single day but that thousands of these articles are prescribed and dispensed. Through the courtesy of twenty druggists in Chicago, located in widely different parts of the city, the speaker had recently looked over several thousand prescriptions with the result that 15 per cent. were for articles of this character. Several proprietary preparations were cited by the author as examples.

Another element of uncertainty is the variation in strength of many of our pharmaceutical preparations.

DR. E. B. MONTGOMERY, of Quincy, contributed a paper entitled,

SOME OBSERVATIONS CONCERNING THE DISEASES OF OLD AGE, THEIR PROPHYLAXIS AND TREATMENT,

which was read by Dr. C. W. Rook in the absence of the author.

The author summarizes his observations in the following conclusions:

1. There are no diseases that are a necessary result of mere length of life; in other words, that old age is not of necessity pathologic.

2. That diseases of a degenerative nature, occurring in the aged, most frequently, are those most distinctive of the decline of life.

3. That such diseases are either due to faulty heredity, overwork, errors in food and drink, or constitutional dyscrasiæ, than from any necessary wear and tear of the vital mechanism, the result of long life.

4. As a corollary of this, the prophylaxis of such diseases consists in a good heredity and a well ordered life, especially the avoidance of syphilis and alcoholism.

5. That their treatment consists largely in proper personal hygiene and the treatment of the constitutional dyscrasiæ, upon which such degenerations so frequently depend.

DR. WILLIAM F. WAUGH, of Chicago, read a paper on

MANAGEMENT OF VALVULAR HEART DISEASES.

Dr. Waugh's paper called attention to the importance of the mechanical principle in the treatment of acquired valvular lesions of the heart. The progressive deficiency in the heart's power is to be met by diminishing its work: *a*, by limiting the exercise to that necessary to keep up the health; and *b*, by reducing the bulk of the blood by abstention from liquids and from fattening foods.

The recent intravascular deposits may be removed by the iodids. By these means, comfortable and useful life may be prolonged to the full normal limit, barring accidents.

The use of digitalis and its congeners is limited to their temporary administration, to afford relief while waiting the effect of the physiologic treatment.

DR. C. B. JOHNSON, of Champaign, read a paper entitled

STOMATITIS MATERNA,

in which he epitomized some of the more important facts pertaining to this disorder as follows:

1, it is a disease to which certain nursing or pregnant women are subject; 2, it is probably true that the disease has been comparatively infrequent of late years; 3, it is positively true that there has been nothing, or next to nothing, in medical literature of the past twenty or thirty years upon the subject; 4, in consequence of this, many medical men of ten, fifteen, or twenty years' experience are not cognizant of ever having seen a case, and would perhaps not recognize one if met; 5, of the real nature of the disease, nothing is known, even by those who have made it a special study, except that it is a peculiar cachexia to which certain pregnant or nursing women are liable; 6, the alimentary canal is the favorite seat of the disease; but should any nursing or pregnant woman suffer from obscure trouble about the lungs, nose, head or ears, the possibility of stomatitis materna acting as the underlying cause should be carefully considered; 7, when the disorder attends lactation the remedy above all others is the suppression of the secretion of milk; 8, when pregnancy is complicated by the disease, cases of such a grave character may come up as to even justify the bringing on of premature labor.

DR. M. P. HATFIELD, of Chicago, read a paper on

MATERNAL IMPRESSIONS.

He prefaced his remarks by quoting Dewees, as follows: "Nor do we believe in the influence of the imagination upon either the form, color or future destiny of the child, however powerful this faculty may exert itself during gestation." He rejects all the reasoning as well as the appeals of facts, purporting to be illustrative of this wonderful influence. "We conscientiously declare that we have never in a single instance had reason to believe that the imagination had exerted the slightest control upon the fetus in utero—contrary to our early belief upon this subject."

Dr. Hatfield summarizes thus: 1, that such cases must have come under your personal knowledge and reported to you by some one incapable of judging; 2, whether the alleged blemish is not one well recognized in teratology as produced by other causes than maternal impressions; 3, that the possibility of atavic defects must be excluded before any given defect can be admitted to be due to maternal influences; 4, that there will occur from time to time a certain number of remarkable coincidences as yet inexplicable, except by that cast of mind which is always looking for the occult and marvelous.

DR. RICHARD DEWEY, of Chicago, contributed a paper entitled

A COMPARATIVE STUDY OF EARLY LIFE CONDITIONS IN TWO HUNDRED CASES OF SANE AND INSANE PERSONS,

which was read by the Secretary of the Section in the absence of the author. Tables were presented in connection with the paper showing the relative ratio of various early life influences in these cases.

FIRST DAY—EVENING SESSION.

The Association met at 8 P.M., and was called to order by the President.

Introductory remarks were made by Dr. J. N. Randall, of Decatur, after which the first Vice-President, Dr. D. R. Brower, of Chicago, took the chair, and President Will delivered his annual address, his subject being

VIVISECTION IN ITS RELATION TO THE ADVANCEMENT OF MODERN MEDICINE.

The utilization of living beings for the purposes of scientific experiment and investigation was not a new practice, said the speaker. Modern surgery virtually owes its existence to the work of the vivisector, not only in the art but in the science. The very first principles upon which it rests, those of asepsis and antisepsis, have been developed under the pressure of vitality's obedience to experimental force. No more brilliant illustration of the dependence on vivisection for the art of modern surgery can be found than is exemplified in the work of some of those who have been and are honored members of this Association. Who, for instance, with a knowledge of the facts, can for a moment gainsay the value of the results of the work in that direction of an Andrews, a Parkes, or a Senn? The thousands of lives that are every year saved through the merciful instrumentality of modern surgery—especially abdominal—attest the value of that preliminary effort on the lower animals which is necessary to secure not only operative skill, but the most perfect technique. Nearly every principle of modern surgery has been wrought out by the careful study of the vital processes on the lower animals, under artificial conditions and circumstances imposed for the purpose of arriving at a most careful estimate of the correlation of forces or influences involved, and the most practical results in their guidance and application to the welfare of the human race. Upon the basis of such commanding principles as those elucidated by actual experiment on the lower animals, has been built the noble structure of our science and art as it appears to-day, which is a gem of architectural beauty grandly visible here and there, giving promise of the sublime heights and magnificence yet to be attained.

DR. EDMUNDS ANDREWS, of Chicago, delivered the address of Section 2, taking for his subject

A NEW METHOD OF GASTROSTOMY.

The address was illustrated with diagrams. He said impermeable stricture of the esophagus necessitates making an artificial opening in the stomach, for the purpose of feeding the patient. In the old method an unexpected obstacle arose. Though the stomach received and digested the food put into it through the artificial opening, yet it was unable to propel it onward into the intestines, because whenever it contracted for that purpose, the resistance of the pylorus was greater than that of the artificial orifice, and the chyme was forced out of the wound and lost, hence the majority of the patients ultimately, though slowly, died of starvation. Several plans have been devised to overcome this difficulty, notably those of Kocher, Alberti and Wetzel. The respective methods of these gentlemen were then dealt with. Dr. Andrews said the thing needed for permanency is the formation of a valvular canal with a lining of mucous membrane. The mucous membrane of the stomach is separated from the muscular coat by an exceedingly loose stratum of connective tissue. In testing this, he found that the mucous layer could be made to glide to and fro in a remarkable manner over the muscular coat. This exceeding looseness of the membrane greatly facilitates raising flaps from it to construct the valvular mucous canal He describes his procedure as follows: External antisepsis is obtained as usual, but the preliminary washing out of the stomach can not be performed on account of the stricture of the esophagus. The external incision is made in the usual way, and the stomach exposed and identified. It is then drawn out through the wound far enough to give freedom in handling. An incision is then made from near the upper border directly downward about two inches. Before this is done, however, provision must be made to prevent its fluids from getting into the peritoneal cavity by the careful placing of large sponges. As the patient has been prevented by the stricture from taking food, the contents will be found to be only the secreted

fluids. The cavity is now washed out with warm boric acid solution, and the edges of the incision secured against slipping back into the abdomen. Now the lower part of the anterior wall is raised, turned out through the incision and spread out flat. From the lower end of the cut, two incisions are made through the loose mucous membrane, one to the right, and the other to the left, each extending about three-quarters of an inch laterally from the lower end of the main incision. From the end of each of these two mucous membrane incisions, another cut is made downward through mucous membrane, parallel to the axis of the body and to each other for a distance of about one inch and a half. At the lower ends the two incisions are turned at a right angle toward each other, but not meeting, a separation of one-third of an inch being left between them.

A female dog weighing forty-five pounds was subjected to this operation April 5, 1894. There was no leakage of the contents of the stomach whatever. At the end of a month she was in robust health, and on being killed May 4, the valve in the stomach was found in good working order, and readily pervious to tubes. We think that there might be a liability in some cases to a contraction of the external or internal orifice of the channel, and hence after the tube is withdrawn it should be occasionally re-inserted to test the size of the channel and if necessary to dilate it.

The address of Section 3 was next in order, and was delivered by Dr. William E. Quine, of Chicago. Dr. Quine selected for his theme

COMPULSORY VACCINATION.

He said vaccination was introduced to the attention of the medical profession by Edward Jenner in 1798 as the result of investigations that extended over a period of twenty years. During the century preceding, according to the estimates of our most authoritative writers and statisticians, smallpox, "the most terrible of all the ministers of death," destroyed in Europe alone, 50,000,000 human lives. Think of it! Five hundred thousand deaths every year from the most loathsome pestilence known to man; thirteen hundred deaths every day, nearly a death every minute for a hundred years. If it be true, as is believed by enlightened people, that universal vaccination and revaccination, efficiently done, will put an end to all this desolation and horror from epidemics of smallpox, and finally eradicate the disease altogether, it would appear that the discoverer of vaccination is the greatest benefactor that mankind has known. Alexander was great. Cæsar was great. Hannibal was great. Napoleon was great. They were all great —as destroyers. What have they done? What have all the kings and potentates and warriors of earth done, in comparison with one member of the medical profession in the direction of adding to the sum total of human happiness and human life? Are such conceptions of the possibilities of vaccination an idle dream?

As proof of the protective influence of vaccination, many examples were cited by the speaker, and but one will suffice here. A village in Leicestershire of thirteen hundred inhabitants was visited in 1872 with smallpox. All but two of the inhabitants were vaccinated, and they escaped the disease. The two unvaccinated persons contracted the disease and died of it.

Age for Vaccination.—Children are more liable to smallpox than adults, and more liable to die when attacked. The younger the child the greater the danger; hence vaccinate during the first year of life.

The speaker then dwelt eloquently upon inefficient vaccination, susceptibility, anti-vaccination societies, vaccination laws, and finally made an eloquent and earnest plea to more thoroughly educate the profession in regard to the disease and, above all, the press and public schools.

SECOND DAY—MORNING SESSION.

After the transaction of some miscellaneous business, the Society listened to the address of Section 1, which was delivered by Dr. Victor C. Vaughan, of Ann Arbor, Michigan, who selected for his subject, "Nucleins and Nuclein Therapy."

Section 2.—Chairman, Dr. D. W. Graham, Chicago; Secretary, Dr. Ellen H. Heise, Canton.

Section called to order by the Chairman.

Under the head of

SURGICAL SHOCK,

Dr. Lester Curtis, of Chicago, made some remarks on its physiology and pathology. He said that Billroth states that he had never lost a case from shock within twenty-four hours after operation, which would almost preclude the possibility of shock, and still surgeons had seen patients suffer from railroad injuries with depression and other symptoms so well known, that the fact of such a thing as surgical shock could hardly be doubted. Surgical shock is a condition of the nervous system that is produced by any sudden or violent injury without any lesion that can be demonstrated after death. The speaker then dwelt upon the different varieties of shock.

Dr. Wm. Barnes, of Decatur, followed with a paper on

THE DIFFERENTIAL DIAGNOSIS AND ELEMENTS OF PROGNOSIS OF SURGICAL SHOCK.

The relation of cause and effect is usually so apparent that the question of diagnosis of shock rarely presents any difficulty, so little in fact that in most treatises on surgery there is no mention whatever made of the subject, and in practice the physician seldom gives much thought to the matter. As regards prognosis the very young and very old are especially prone to severe shock, but in the former the reaction is apt to be rapid and complete, while in the latter it is often slow and feeble. The extent, character and seat of the injury must always be considered in prognosis. The more profound the prostration, and longer the condition prevails, the greater is the danger. Increasing rapidity of the pulse with diminution of force and volume in connection with continued subnormal temperature almost always indicate a fatal termination.

TREATMENT—WHAT TO EXPECT FROM DRUGS IN SURGICAL SHOCK.

By Dr. E. W. Weise, of Ottawa. In the absence of the author of this paper, Dr. Wm. E. Quine was called upon by the Chairman of this Section to make some remarks. Dr. Quine said that treatment in relation to the management of any morbid condition refers to the removal of the cause. If the cause of the shock be violent, accompanied with agonizing pain, the immediate or rapid control of the element of pain contributes to the prompt removal of the consequences of that suffering. The employment, therefore, of medicinal agents to control pain and relax the spasm of the cutaneous blood vessels can usually be resorted to with satisfactory results. His conception of the medical management of shock relates first of all to the immediate control of pain, and second to the restoration of the functions of circulation and metabolism which were profoundly and instantaneously interfered with by reason of the operation of the primary disturbing cause.

Dr. C. C. Hunt, of Dixon, contributed a paper entitled

SOME OBSERVATIONS ON THE TREATMENT OF FRACTURES OF THE NECK OF THE FEMUR WITH ILLUSTRATIONS SHOWING A PRACTICAL AND EFFICIENT METHOD.

In the absence of the author, this paper was read by the Secretary, Dr. John B. Hamilton.

The point brought out in the paper was that union by bone of non-impacted intracapsular fractures of the neck of the femur is now accepted as proven. The principles governing the treatment of fractures within and without the capsule are the same. Then followed a statement of the conditions favorable for repair by bone. The author thought the comfort of the patient was too often overlooked by the desire on the part of the surgeon to effect fixation and equal length of the limb. A report of cases followed and photographs were exhibited illustrating the method of treatment by Hunt's modification of Dr. Verity's splint with lateral as well as longitudinal extension.

Dr. William J. Eddy, of Shelbyville, reported a case of secondary hemorrhage in gunshot fracture. The paper dealt principally with gunshot fractures of the long bones of the leg and the manner of dealing with them in the light of to-day.

Dr. F. C. Vandervoort, of Bloomington, read a paper entitled,

PEROXID OF HYDROGEN AND THE RESULT OF ITS USE IN MY HANDS.

He considered the drug one of the most important additions to our list, and one that will give entire satisfaction in properly selected cases. He has used it in cases of empyema and in abscesses of all kinds, and especially in large ones with very small openings, with gratifying results.

OPERATIVE TREATMENT OF PROSTATIC OBSTRUCTION.

Dr. Lewis L. McArthur, of Chicago, read a paper with this caption.

At various times, by different authors, the following plans of treatment have been more or less strongly advocated for the relief of prostatic obstruction: Electrolysis, cauterization (actual or galvanic), castration, prostatectomy (partial or complete), drainage, perineal or suprapubic.

With regard to suprapubic drainage, the technique is to be found in all of the more recent works on vesical surgery, but the essayist recalled some of the special points as follows:

1. After irrigation with an antiseptic solution, distend, but do not rupture, the bladder with your antiseptic solution, and constrict the penis.

2. Put the rectal bag in place and gently distend with water.

3. In all the dissection do not tear, but cut.

4. Gently separate the recti and pyramidales with few cuts, cut slowly through the presenting transversalis fascia with its fat, after pushing that at the upper angle forward. When muscular wall of the bladder is reached, pack the wound with gauze for twenty-four or forty-eight hours at the point where you desire to puncture.

Drainage tubes of various kinds are recommended, but the speaker had found Andrews' empyema tube to answer the purpose. The nature of the siphon and its method of working should be made clear to the attendant. Broome suggests the use of a trocar for making the perforation in the bladder wall, and then using a tube of the same dimensions. It prevents all leakage, and when siphonage is employed it insures the good action of the latter by preventing the aspiration of air into the bladder, which is likely to occur if the drain fits the wound loosely.

DR. WILLIAM E. GUTHRIE, of Bloomington, reported an interesting case of resection of the shoulder joint with especial reference to restoration of function, and exhibited the patient. The case was unique on account of the amount of bone restored and the remarkable restoration of function in a short time.

DR. A. E. HOADLEY, of Chicago, read a paper entitled,

INDICATIONS FOR MECHANICAL TREATMENT IN THE VARIOUS STAGES OF HIP JOINT DISEASE.

He said the first indication for mechanical treatment in hip joint disease is a diagnosis of the affection, and that just as soon as this can be made, mechanical treatment should be instituted. The first stage of hip joint disease was characterized by fixation and abduction, and more cases could be cured at this time than at any other. The author emphasized the importance of early treatment. Relative to traction, he favors a degree of traction that is comfortable. If three or four pounds of traction are sufficient to relieve the muscular irritability, in his opinion it is sufficient. As far as lateral traction was concerned, there were only a few cases in which it was particularly indicated or advantageous. Direct traction in a great majority of cases was ample.

SECOND DAY—AFTERNOON SESSION.

DR. FRANK H. MONTGOMERY, of Chicago, contributed a paper entitled

SOME COMMON ERRORS IN THE TREATMENT OF INFANTILE ECZEMA,

which was read by the Secretary of the Section in the absence of the author. Statistics show that more than one-third of the cases of infantile eczema originate during the first twelve months after birth. They also show that in over 80 per cent. of these cases some portions of the face and head are affected. These reports are based largely on dispensary and hospital practice where eczema of the covered parts of the body is much more common, caused by the presence of lice, dirt, by rough, coarse clothing colored with cheap dyes and by secretions and excretions retained in contact with the unwashed skin. The questions that enter into the treatment are a proper diet, and the judicious selection of local remedies, etc.

DR. E. FLETCHER INGALS, of Chicago, followed with a paper entitled

CAUTERIZATION OF THE NARES AND ACCIDENTS THAT MAY FOLLOW.

Although from time to time articles have been written to show that serious accidents often follow cauterization of the nares, the author thinks, when properly done, this operation is quite as free from discomfort or danger as any other minor surgical procedure. Serious results following these operations, he thought, were due to carelessness or inexperience upon the part of the operator which induced him to make extensive wounds, or to repeat burnings too frequently.

The essayist summarized as follows:

1. It is important that antiseptic applications be regularly employed after cauterization of the nasal mucous membrane, and that the nostril be closed by cotton for several days, whenever the patient is out of doors, to prevent taking cold.

2. As a rule, at least two weeks should intervene between operations upon opposite sides, and three or four weeks between those on the same side.

3. No serious results are at all likely to follow cauterizations made in this way.

4. Practically all cases of hypertrophic or intumescent rhinitis may be cured by this treatment, though occasionally portions of the turbinated body must be removed

DR. NORVAL H. PIERCE, of Chicago, read a paper entitled "The Treatment of Otitis Media Purulenta Chronica."

DR. T. MELVILLE HARDIE, of Chicago, reported an interesting case of empyema of the sphenoidal sinus and posterior ethmoid cells.

If one is to judge from the great rarity with which the sphenoidal sinus is mentioned in current medical literature, it must be considered in a great measure an unknown land, so that the history of the case as presented by the essayist was very interesting. The patient was nine and a half years of age.

DR. J. ELLIOTT COLBURN, of Chicago, read a paper entitled

PROGRESSIVE MYOPIA,

in which he took up the physical side of the subject in its relation to the development of the eyes, and then especially in relation to the causes of progressive myopia. Myopia of a low degree is a serious inconvenience, but when it reaches four or five dioptrics it is a calamity. It would seem from looking over the statistics of various observers that a refraction in the newly born infant is that described as hyperopic, the static refraction being too low for the length of the eye. The evolution of the eye from that time is toward the emmetropic eye. In case of arrested development the result is hyperopia of varying degrees, or if the evolution is carried beyond emmetropia, it becomes myopia of low or high degree. The author cited three cases illustrating the development of myopia from hyperopic eyes. The treatment of progressive myopia consists in correcting the error of refraction, giving general tonics, prohibiting the use of the eyes for close work, and instilling atropin.

Under the head of

FIBROID TUMORS OF THE UTERUS,

the following divisions of the subject were considered:

a, "Natural History," by Dr. L. A. Malone, of Jacksonville; *b*, "Their Complications," by Dr. Marie J. Mergler, of Chicago. Dr. Mergler's paper was read by the Secretary of the Section, Dr. Heise, in the absence of the author.

As we have no reliable data as to the relative frequency of fibroid tumors of the uterus, it is impossible to state even approximately, what proportion of fibroids are complicated with other morbid conditions, for there is still much diversity of opinion as to the relative frequency with which the fibroid *per se* occurs.

In a series of fifty-three consecutive cases, observed in the gynecological clinic of the Woman's Medical School, in which the presence of one or more fibroids was discovered, only three were sufficiently large to lead the patient to suspect the growth, and in every instance the patient applied for treatment of some marked symptom or complication—for example, sterility, repeated miscarriages, dysmenorrhea, menorrhagia, and irritation of the bladder. Six of these cases applied with sterility; seventeen gave a history of one or more miscarriages; twenty-eight suffered with dysmenorrhea; seventeen with menorrhagia; two with amenorrhea; thirteen with irritable bladder, and four with the symptoms of chronic nephritis.

c, "To What Extent are they Influenced by Medical Treatment?" by DR. WALTER RYAN, of Chicago.

The author said it was essential, before attributing curative results to any medicinal agent, to exclude all *post hoc non ergo propter hoc* cases, otherwise medicines might be given more credit than they deserved. Numerous medicinal agents have been recommended from time to time for the treatment of fibroid tumors with an enthusiasm which amounts to fanaticism. These were gallic acid, cannabis indica, hydrastis, cinnamon, ergot and many others, but we had seen very few cases really cured by drugs. In the imagination of Apostoli and the many little apostles, we had seen uterine fibroids almost universally cured by electricity, but after their treatment by electricity and other medicinal means, the surgeon was called upon to remove them by surgical interference. In general, uterine fibroids are influenced by drugs only to a slight extent, but in exceptional cases apparently to a considerable extent.

d, "The Palliative Operations and their Comparative Value." This paper was read by DR. F. HENROTIN, of Chicago.

e, "Choice of Radical Operations for the Cure of Uterine Fibroids," by DR. HENRY T. BYFORD, of Chicago.

Polypoid fibroids should always be removed per vaginam when smaller than a child's head, and the same may be said of the submucous variety when not complicated by other tumors of good size belonging to other classes. Submucous tumors larger than a child's head usually require abdominal section. In such cases the uterus may be incised, the tumor enucleated, the bed sewed up, and the uterine cavity drained with gauze.

Intramural fibroids are usually multiple. When small they can sometimes be radically cured by ergot, electricity, oöphorectomy, or vaginal ligature of the uterus, as recommended by Dr. Franklin H. Martin. When they press injuriously upon surrounding tissues or occlude the cervix and can not be enucleated, the uterus may be removed, per vaginam, with or without *morcellement*, provided the whole mass is not larger than a child's head.

Single subserous and pedunculated growths can be removed without taking out the uterus. Multiple subserous, intraligamentous tumors require supravaginal amputation or total extirpation.

f, "The Radical Operations—a Review, with Description of Technique," by DR. N. SENN, of Chicago.

DR. A. R. SMALL, of Chicago, read a paper entitled

SHOULD LACERATIONS OF THE CERVIX UTERI BE MORE FREQUENTLY REPAIRED?

This question the author answered in the affirmative. Few would believe, unless they had had personal experience in repairing these lesions, that even a slight tear in the cervix uteri would give rise to as many and varied symptoms, as those who had performed trachelorrhaphy many times know to be the case. He knew of no lesion, so apparently slight, which was capable of producing so many and varied symptoms as a lacerated cervix. He believes every woman should be examined within three months after confinement, and if her cervix is lacerated it should be repaired at that time.

DR. J. F. PERCY, of Galesburg, reported a case of tubal pregnancy upon which he had operated, with recovery of the patient.

DR. C. W. ROOK, of Quincy, reported a case of parotitis with metastatic metritis of the pregnant uterus, resulting in the miscarriage of a three months' fetus. The patient was 30 years of age. In consulting the literature he was unable to find but one recorded case in which the pregnant uterus was the seat of metastasis, and this case is recorded by Dr. F. D. Haldeman, in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, May 14, 1887.

All writers on parotitis refer to a possible metastasis of the testicle, mammæ, ovaries, etc. Niemeyer and Constatt include the uterus, while a study of parotitis, such as can be obtained from current medical literature, shows that nearly every organ and tissue of the body have figured in the metastatic complications of parotitis.

ABORTION.

This subject was dealt with in a series of papers as follows:

a, "The Prophylactic Management," by DR. J. C. MCKINNEY, of Barry.

According to Schuhl, repeated abortions in the same woman are usually traceable to some one cause. More rarely, there is a different cause for each one.

Treatment should be begun in the intervals of pregnancy, or after the beginning of gestation. The cause is to be sought for and treated. Some diseases, such as nephritis, pulmonary tuberculosis and cardiac affections are not amenable to treatment, and are aggravated by pregnancy. Such patients should be advised to avoid pregnancy. The prophylaxis depends altogether on finding the cause and removing it if possible.

b, "Management of Inevitable Abortion," by DR. C. W. SIBLEY, of Fairchild.

To decide just when a threatened abortion becomes inevitable is always desirable and sometimes difficult. When it is decided in a given instance that an abortion is inevitable, the case loses none of its interest, for there is no class of cases which cause more anxiety to the average medical man than abortions. Until comparatively recent years extreme conservatism was the rule of practice, this being more especially so before the prevention and treatment of sepsis were brought to their present state. Even now a practitioner may follow any course he may fancy and find some authority for his course; and yet the trend of modern practice is undoubtedly toward radical methods, and this because the two chief sources of danger in abortion are best thus avoided. Of these two principal sources of danger, hemorrhage is the most immediate, and sepsis, while more remote, the most far-reaching and terrible in the suffering it may cause and the sequelæ liable to follow it.

The tampon, hot and cold douches, ergot, quinin and aortic compression are resources likely to be efficient in the control of hemorrhage until the uterine cavity can be emptied. With the danger in this direction, when proper after-treatment has passed, as the dangers of sepsis are all augmented by delay, and as sepsis is always easier prevented than remedied, the only safe rule is to immediately evacuate the contents of the womb in all cases where it is decided that abortion is inevitable, due care being taken to avoid rupture of the membranes, which accident facilitates the escape of the ovum and the retention of the membranes.

c, "Management of Neglected Cases," by DR. ABBE F. ROONEY, of Quincy.

The essayist said he supposed by neglected cases was meant such cases as call no doctor, and those in which the doctor does nothing when he is called. When the physician can convince himself either by the profuseness of hemorrhage or its long continuance, or by the odor of decomposition and upon bimanual touch note the loss of elasticity which accompanies an unruptured fetal envelope, then an effort should at once be made to remove thoroughly whatever may be found within the uterine cavity. Having douched the vagina with a bichlorid solution—1–4000—to avoid any external infection, Sims' speculum and a tenaculum will bring the cervix clearly under control, and slight dilatation will enable one to carry Emmett's curette forceps into the cavity and grasp whatever is loosely attached therein. Now, swab the cavity with a bichlorid solution on cotton held in the forceps before proceeding to pass a dull wire curette about in all directions to discover adherent particles of the placenta that have escaped the forceps. Hemorrhage is sometimes quite free, but it lessens after all the shreds are removed and if the cavity is swabbed with a saturated solution of iodin crystals in a 95 per cent. solution of carbolic acid, there will be provoked a contraction of muscular tissue and closure of torn vessels, so that there is no danger of subsequent hemorrhage.

d, "The Sequelæ—Their Importance to the Gynecologist," by DR. HENRY P. NEWMAN, of Chicago.

The importance of the subject of abortions in their connection with the causation of gynecic disease, can be somewhat appreciated when we consider that their frequency is placed by the most conservative writers as about one in nine normal deliveries, and the French writers so far exceed this estimate that according to Pajot and Verrier, it may be stated that abortion is more frequent than delivery.

First upon the list of unfortunate consequences of abortion is acute sepsis. This complication may occur by infection *in loco*, or by infection from without. The former is more rare, but the latter not infrequent, and this is largely owing to the neglect which prevails among women who abort, particularly those who have induced the occurrence. Infection from without, while more common, is a complication which should always be prevented, and is caused by the introduction of pus-producing bacteria through the use of various instruments, the hands, or some mechanical agents.

The author also referred to subinvolution as a complication following abortion. This may be produced by retained secundines, keeping the uterus distended, engorged and inflamed along its inner lining, or it may be the result of a metritis proper, or inflammation of its adnexæ, set up by trauma and acute infection. It is well known that a single abortion predisposes to recurrence, this in turn to a third and fourth, and hence what is termed the abortive habit is produced.

A paper on "Conduct of Natural Labor in Country Practice," contributed by DR. JAS. E. SUTTON, of Canton, was read by the Secretary of the Section in the absence of the author.

THIRD DAY—MORNING SESSION.

Section 3.—Chairman, Dr. Geo. W. Webster, Chicago; Secretary, Dr. G. A. Zeller, Peoria.

Section called to order by the Chairman.

DR. M. S. MARCY, of Peoria, read a paper on

WHAT IS THE PROPER MODE OF EXECUTING CRIMINALS?

The author suggested as one of the best means morphin and asphyxia. A criminal who is condemned to die should be placed in an air-tight cell, a large dose of morphin given hypodermatically, and while he peacefully sleeps the gas should be turned on in his cell and continued until he ceases to breathe.

In this way, the author said justice could be meted out,

death would be sure, and none of the horrors incidental to the customary mode of executing criminals would linger in the minds of the sheriff and his aids.

DR. ROBERT BOAL, of Lacon, followed with a paper in a similar line, which was entitled,

EMASCULATION AND OVARIOTOMY AS A PENALTY FOR CRIME IN THE REFORMATION OF CRIMINALS,

in which he took strong and advanced ground in favor of unsexing, by law, habitual criminals as the best means of preventing or minimizing the grosser crimes. The essayist had been in active practice for more than sixteen years, and has been during that time a close observer of the efforts at the reformation of criminals, and considers that these efforts have been in a large degree failures.

DR. W. R. ALLISON, of Peoria, read a paper with the following caption:

THE CORRECTION OF CRIMINALS BY EDUCATION.

He said that while public punishment and execution may not accord with the prevailing opinion of to-day, it is a fact that punishment by burning at the stake, if secretly executed, would have no influence upon the individuals whose penalties for crime are intended. It is the result of crimes acting as an effect by education through reason or fear that will check the cause. Perverted bodily functions which stimulate immoral and criminal acts, if not amenable to an educational equilibrium, should be removed, when they can be, without shortening longevity and preventing crime. Abnormal or criminal masculine acts, for which the rapist is punished, should be emasculated, not secretly, for that would be revolting to a few.

DR. BOERNE BETTMAN, of Chicago, followed with a paper entitled

LEGISLATION FOR THE PREVENTION OF BLINDNESS,

in which he advocated and urged the adoption of legislative measures for its prevention. He offered the following resolutions which were adopted:

WHEREAS, Statistics compiled in this country and in Europe demonstrate that fully 25 per cent. of our blind owe their affliction to an inflammation of the eyes appearing a few days after the birth; and

WHEREAS, Experience has proved that the inflammation can be cured and the eyesight saved in the majority of cases if treatment is instituted at an early stage of the disease; and

WHEREAS, The destruction of the eye and blindness are usually the result of delay in treatment; be it

Resolved, That we heartily recommend that the people of the State of Illinois represented in Senate and Assembly, do enact as follows:

SECTION 1.—Should one or both eyes of an infant become inflamed, swollen or reddened at any time within two weeks after its birth, it shall be the duty of the midwife or nurse having charge of such infant, to report in writing, within six hours to the health officer or some legally qualified practitioner of the city, town or district, in which the parents of the infant reside, the fact that such inflammation or swelling or redness of the eyes exists.

SEC. 2.—Any failure to comply with the provisions of this Act shall be punishable by a fine not to exceed two hundred dollars, or imprisonment not to exceed six months, or both.

DR. D. R. BROWER, of Chicago, read a paper on

MEDICAL EXPERT TESTIMONY,

in which he said he believed every member of the Society would agree with him that the display of medical expert testimony in the Cronin and Prendergast cases of Chicago, and the Hart case of Rockford, were not creditable to the medical profession, had not promoted the cause of justice, and had not protected the interests of society by the suppression of crime. He said we had seen in these several cases medical men arrayed against medical men with precisely the same set of facts reaching diametrically opposite conclusions, as though all medicine was but empiricism, while the reputable and true physician knows that the laws upon which it is based are scientific and that two persons equally competent, with the same facts to consider, must of necessity reach the same conclusion.

At the conclusion of the paper, Dr. Brower presented the draft of a bill for an Act authorizing the judges of criminal jurisprudence in the State of Illinois to appoint persons to act as expert witnesses, which was approved by the Society. It is as follows:

Be it Enacted, By the people of the State of Illinois in the General Assembly represented, that the judges of the Circuit and Superior Courts of the State of Illinois, be and the same are hereby authorized to appoint in the month of January of each year, persons who shall act as expert witnesses in the medical and other sciences in giving opinion upon the evidence, as presented in a hypothetical form, of criminal causes that may be on hearing in the courts presided over by the said judges. Such expert witnesses shall hold their said appointments for one year or until their successors are appointed and qualified. They shall be entered as expert witnesses upon a list of such witnesses kept by the circuit clerk, and the said clerk shall issue a certificate of appointment as such expert witness to the person appointed as above.

Such expert witnesses shall be citizens of the State of Illinois and shall be known in the communities where they reside for their professional competency and personal probity, and if physicians they shall have been at least five years in regular and active practice. When expert opinion is desired in any cause pending in a criminal court, the trial judge presiding in such cause may, at his discretion, summon for duty under this Act, such expert witnesses to the number of three. Such expert witnesses shall be paid for their services by the county in which the trial for which they are summoned is held, in such sums as may be named by the judge.

It shall be the duty of such expert witnesses to give an opinion on the evidence as presented in hypothetical form in the case in which they are called. Such experts shall be subject to cross-examination by both prosecution and defense; but such cross-examinations shall be limited entirely to the subjects embraced in their opinion.

In criminal cases previous to trial, if the State's Attorney deems it advisable to have expert opinion, he shall so state to the court having jurisdiction of the cause, and the judge receiving such statement may summons expert witnesses to serve under this Act.

DR. SANGER BROWN, of Chicago, read the

REPORT OF THE COMMITTEE ON INFORMATION,

of which Dr. E. F. Ingals is Chairman. Among other things, the report dealt with the prevention of smallpox, and the cocain habit.

Before the days of vaccination, the annual mortality from smallpox in England averaged about three thousand to each million inhabitants. In France there were 30,000 deaths per annum, and in Russia smallpox is said to have destroyed 200,000 of the inhabitants in one year. The Committee urged the necessity of re-vaccination at least once in seven years, or oftener in case of unusual danger from the disease.

Another subject of much interest to the profession was the alarming increase of the cocain habit due to the promiscuous sale of various catarrh powders containing a dangerous quantity of this drug. The Committee said they could not urge too strongly upon the profession that prescriptions containing cocain, which may be repeated, should never be given, and it should be considered criminal practice to place this drug in the hands of the laity for their unrestricted use.

The following resolutions were read and adopted:

By J. B. Maxwell, of Mount Carmel:

Resolved, That the Illinois State Medical Society give the scheme for an epileptic colony, as proposed, its emphatic and unqualified indorsement:

By A. C. Corr, of Carlinville:

Resolved, That the Secretary be hereby instructed to request Senators and Representatives in Congress from the State of Illinois to use all means in their power to secure the passage of the AMERICAN MEDICAL ASSOCIATION Bill for the establishment of a Department of Public Health, with a competent medical man at the head.

By Dr. Graham:

WHEREAS, The bill making appropriation for the support of the army for the fiscal year ending June 30, 1895, was passed by the House of Representatives with the proviso "that hereafter no appointments shall be made to the office of Assistant Surgeon until the number of Assistant Surgeons shall be reduced below ninety, and thereafter the number of officers in that grade in the Medical Department shall be fixed at ninety;" and

WHEREAS, Such a reduction in the number of medical officers would seriously impede the administration of the Army Medical Department and greatly interfere with a continuance of the high standard of proficiency that has heretofore characterized that department, therefore be it

Resolved, That this Society earnestly protest against the proposed reduction, and urge the Representatives and Senators from this State to prevent its enactment.

Adopted unanimously. The Secretary was instructed to so inform our Senators and Representatives in Congress.

By Wm. E. Quine, of Chicago:

Resolved, That the Committee on Legislation be and hereby is instructed to use its best efforts to secure the adoption of a law prohibiting the sale of proprietary and other medicines in this State except on the prescription of duly licensed physicians; and except as

Provided, That such medicines may be sold if accompanied by a certificate from the State Board of Health to the effect that said medicines contain no ingredient hurtful to the public health.

The following officers were elected:

President—Dr. D. R. Brower, of Chicago.

First Vice-President—Dr. A. C. Corr, of Carlinville.

Second Vice-President—Dr. C. B. Johnson, of Champaign.

Permanent Secretary—Dr. John B. Hamilton, of Chicago.

Assistant Secretary—Dr. E. P. Bartlett, of Springfield.

Treasurer—Dr. George N. Kreider, of Springfield.

Dr. J. Homer Coulter, of Chicago, offered resolutions thanking the retiring President for his work in behalf of the Association, and also thanking the Committee of Arrangements, the Decatur Club, and the press for their excellent reports, all of which were unanimously adopted.

The retiring President thanked the Society for courtesies extended to him during his presidency.

Dr. Brower, the President-elect, was then presented, and made a few timely and appropriate remarks. There being no further business, the Society, on motion, adjourned to meet in Springfield, the third Tuesday in May, 1895.

Note.—By reason of the expeditious manner in which the President and the Chairmen of the respective Sections discharged their duties, forty-six papers were read, four addresses delivered, and the regular and miscellaneous business that came before the General Sessions disposed of.

Nebraska State Medical Society Votes for Revision.

Report of Committee on President Mansfelde's Address.

Lincoln, Neb., May 18, 1894.

To the President and Members of the Nebraska State Medical Society:

Your Committee to whom was referred the address of the President beg leave to report: That a careful consideration convinces them that the earnest attention given the Constitution, By-laws and Code of the American Medical Association by the profession all over the country, makes the action of the Association in referring the matter to the several State Societies, a timely one. We find, also, that two contending opinions exist—one that the Code is good enough as it now stands and should not be altered or amended; the other, the very opposite, that the instrument has long since outgrown its usefulness. Your Committee suggest:

That it is unjust to the labors of the past to abolish its landmarks, the old Constitution and Code of the American Medical Association; and, also, that the assumption of infallibility of these documents is contrary to the spirit of our times, and it is, finally, our opinion that real grievances exist, for the correction of which we beg leave to recommend: That the President and Secretary of the Nebraska State Medical Society, under the seal of the Society, submit to the American Medical Association, for its approval, the following:

That no one shall become a member who has not the qualification hereinafter provided in an amendment to the Code.

That the membership shall be restricted to the members of the State and Territorial Societies, the Medical Corps of the United States Army and Navy, and the Marine-Hospital Service, having subscribed to the Constitution and Code of the American Medical Association, and that representation by delegates be abolished. That in case local and district societies are also admitted, either as such or by delegates, then such societies or delegates shall show that they have subscribed to the Constitution and By-laws of the *State or Territorial* Societies in the jurisdiction of which they are located.

That the existence and duties of the Nominating Committee be left as now provided for.

As to the Code: Article I. Section 1 should read: No student of medicine shall be accepted by any college or school of medicine, whose graduates expect to become members of the regular profession in good standing, who do not possess as a minimum qualification a diploma from a high school, admitting the owner to the first or freshman year of the best universities of the United States.

And further, no graduate of any college, or school of medicine, which does not require a course of medical training, comprising four school years of not less than six months each, or three school years of not less than eight months each, shall be entitled to membership in any subordinate body forming a part of the American Medical Association. And provided further, that the course of study must comprise all the branches now embraced in the curriculum of the Association of American medical colleges, and such requirements shall never be lowered, except by and with the consent of the American Medical Association.

That Article IV, Section 7 be amended to read: Any physician, who is a member of this Association or of one of its subordinate bodies, or any physician who by his qualifications is entitled to be a member thereof, shall enjoy the benefits of *consultations*, and these shall be the prerogatives of such members of the profession only. *Provided*, that this shall not preclude any member, or a physician entitled to membership, from rendering services in which urgency becomes a factor to the saving of life and limb, and such services only shall constitute an emergency, which precludes the possibility of calling into the case of legitimate consultants, who, as defined in this Section, are entitled to such distinction.

A violation of this Section shall be followed by loss of membership, or be a bar to it.

Article II, entitled: "Obligations of patients to their physicians," should be abolished; because the first party to this contract never has fulfilled, and never will keep its part of the compact.

Article I, Section 5, should be amended by striking out the words, surgical instrument or;" thus the Section should read, "equally derogatory to professional character is it for a physician to hold a patent for any medicine or dispense a secret nostrum, etc."

In case the Association will not grant this change, then it should, as a matter of justice and equity, include in the prohibitions: "*The copyrighting of any book on medical subjects;* then the Section should read, equally derogatory . . . . . for a physician to hold a copyright for any book on any medical subject or a patent for any surgical instrument, etc."

(Drop ordinance Vol. 20, page 28, referring to specialists.)

There should be added a Section 6 to Article I, of the chapter, "On duty of physicians to each other," to read: "The field of medical knowledge is now so vast that no one mind can compass it in all its details. Nor can any one hand obtain the dexterity essential for the successful procedures and daring operations of modern medicine and surgery. Such work has become by selection that of specialists, who have become a decided factor in the progress of the healing art, and should therefore be encouraged."

They should be permitted to give notice, in manner entirely truthful, of their special practices.

Every practitioner shall have the right to state in his card that he gives preference to any one of the specialties now or hereafter recognized by the profession.

Finally your Committee recommend that the American Medical Association be respectfully urged to refer all proposed changes, including our own, to the Council of the Association, with instructions to report such changes to Constitution, By-Laws and Code as a careful consideration of every suggestion submitted may elicit, and that final action may be taken upon such report at the San Francisco meeting.

Your committee further makes suggestion that members of the Association will adopt as a custom for a distinction the signing of the letters A.M.A. after the affix M.D.

And we will ever pray.

George Wilkinson,
J. M. Alder,
E. M. Whitten,
D. C. Bryant,
C. Inches,
P. L. Hall,
A. S. von Mansfelde, *ex-officio*.
Committee.

Moved and seconded that the report be adopted.

Dr. Mitchell moved to adopt that part of the report of the Committee which refers to the requirements for admission to the AMERICAN MEDICAL ASSOCIATION; also including that part relating to Nominating Committee. Motion seconded and carried. He also moved that the remainder of the report referring to the Code of Ethics be referred to a committee of three, who shall report to-night.

THURSDAY EVENING.

Meeting called to order at 7:40 P.M. Vice-President Crummer presiding.

Under miscellaneous and unfinished business, on motion the rules were suspended to elect Dr. S. E. Cook, of Lincoln, whose application was filed during the meeting. The Secretary then announced that those desirous of obtaining credentials to the AMERICAN MEDICAL ASSOCIATION should make themselves known to the Society. The Secretary said further that he held in his hand the message that the Nebraska State Medical Society would send to the AMERICAN MEDICAL ASSOCIATION at San Francisco; that the Society in delivering such a message was acting cowardly. The AMERICAN MEDICAL ASSOCIATION cares little to be told to raise the standard of medical education. "It is doing this with little trouble each year. What it desires of you is to give it some idea of the feeling in the States concerning the Code. Give it some idea on this question. Tell it concerning the questions of consultation and the patenting of instruments, whether they shall remain or whether they shall go, or acknowledge frankly that the matter is too much for you. Let us say something."

Dr. Ely introduced the following resolution:

WHEREAS, This Society is pleaded with by the AMERICAN MEDICAL ASSOCIATION to assume part of the responsibility of the national question, the Code of Ethics; and

WHEREAS, It is right that we do lend ourselves to the responsibility of this issue; and

WHEREAS, It seems impossible for our Committee to point out what changes are desirable; therefore,

Resolved, That in our opinion the interests of professional honor and rectitude will be best served by the entire abrogation of all that portion of the Code which relates to consultation and the patenting of instruments.

Dr. Ely, in answer to a question that if he meant by said resolution to abolish entirely the Code, said: "No; it will only abolish that part of it which makes of the Code, *a quæstio vexatio*, and that which our Committee on this matter acknowledge, after a night's work, entirely unable to revise. Our vote will in no way bind this Society to anything. It is simply an expression of opinion."

Dr. Wilkinson: Mr. President, before you put this matter to a vote I should like to say a word. Remember this is a serious matter. We do not need to adopt this resolution; adopt or reject, it serves the same purpose. Are you satisfied that the members present will represent the opinion of the Society? This is the important and dominant part.

The resolution was carried.

College of Physicians and Surgeons of Philadelphia.

ORTHOPEDIC SECTION.

EXHIBITION OF APPARATUS FOR PREVENTING AND CORRECTING DEFORMITIES OCCURRING AFTER EXCISION OF THE KNEE JOINT, BY DR. G. G. DAVIS.

DR. G. G. DAVIS—In the treatment of resection of the knee, flexion often occurs. It is difficult to get firm union in a straight line, and I believe this difficulty is not recognized sufficiently, and efficient means are not taken to provide against it. This is seen not only in private practice, but still more frequently in cases on which operation has been previously done, which afterwards apply at our surgical dispensaries. I am quite of the opinion that effective apparatus of some sort is necessary. I do not know what appliances the other members have used for the treatment of this tendency, but the apparatus which I have found to be most efficacious has been as follows:

It consists of two iron sides which are joined at the ankle and have a stirrup beneath the foot; on the inner side the upright reaches to the perineum; on the outer, to above the trochanter.

The outer piece is fastened above to a metal hip band passing three-fourths around the pelvis and lying, like a truss, just below the crests of the ilia. The posterior portion of the leg is supported by the heel in the shoe below, and a piece of sole leather above going around the posterior half of the thigh from one side iron to the other and touching the gluteo-femoral fold. Pressure is made on the front of the knee by a padded sole-leather knee cap, fastened to the inside iron by two straps, while its outer side, passing down between the limb and side iron, is depressed by one or two screws fastened to a plate on the outer side iron.

Antero-posterior displacement is met by turning the screws and thus forcing the knee backward.

Lateral displacement is met by bending the side irons in or out as required by wrenches.

Any tendency to inversion or eversion is met by twisting the outside iron just below the hip joint with wrenches.

A soft leather hip band will not do, as it will not fix the brace firmly enough in relation to the pelvis to prevent rotation. In order to avoid dropping of the toe, while the patient is going around with a high shoe and crutches, the ankle joint should be fixed by locking it with a screw which can be removed when the limb is used for walking.

I am averse to using any apparatus, like plaster-of-paris, that can not be altered, and conceals the part. I wish to see the limb every week, so that if any tendency to deformity shows itself, it can be at once met by applying a positive pressure in the proper direction.

DR. DEFOREST WILLARD—It seems to me questionable whether the plate upon the outer side will make as much pressure as the pad ordinarily placed in this position.

DR. G. G. DAVIS—It is simply a matter of taste. I prefer the screw arrangement because straps are apt to yield and become loose, while with it the parents can, by turning the screw with a key, always keep the pressure firmly applied.

DR. H. AUGUSTUS WILSON presented a cast of a leg, showing right angle flexion and rotation after excision of the knee, and said: When I first saw this patient five weeks ago at the Jefferson Hospital he said he was aged 14 years, and that nine years previously he was operated upon at St. Petersburg for what appeared to have been tubercular osteitis. The operation seems to have been excision of the knee joint, and it occurred to me it might be of interest to the Section to study the case showing such serious ultimate deformity. For six months the child walked with crutches, but on abandoning them the leg became bent, and at the end of a year the leg presented the appearance of right angle flexion.

At the time I performed secondary resection at the line of the original excision, there was an immense amount of callus. In sawing, I also found a large amount of callus thrown in the popliteal space. The curve which existed was very large in the upper end of the tibia and flexion seemed to have occurred in the callus; the case illustrating one of the unfortunate results of not using absolute fixation and crutches long enough. From the history of this case I judge that the condition of tubercular osteitis existed something like two years previous to the first operation. It is interesting also to know that at the upper end of the tibia, which was the original seat of the tubercular osteitis, there was a clearly marked cavity, and in the center a fibrous mass of cheesy consistency. I gouged this out and the patient did fairly well until the relighting of the tubercular inflammation. There has been primary union and the inflammation has subsided under the use of iodoform injections. The case is interesting in connection with a number of cases which I reported at the Academy of Surgery, in which flexion took place after excision. (*American Journal of the Medical Sciences*, March, 1893.)

DR. F. X. DERCUM—As displacement occurs from active flexion of the muscles, would it not be a good plan to excise the joint and then tenotomize the muscles?

DR. G. G. DAVIS—Tenotomy of the muscles would obviate the tendency to deformity occurring immediately after operation, but would have no influence upon deformity occurring subsequently; that is to say three months, six months, or a year afterwards, because union would already have occurred.

DR. G. G. DAVIS—I would like to say a word about the use of the apparatus of Dr. Goldthwaite which has been exhibited by Dr. Willard, because in it there is an attempt made to exert force in a manner which has not yet been alluded to. Dr. Willard spoke of posterior luxation and said that in such cases he usually used excision. Ordinarily, straightening of a joint is done by simply flexion and extension movements; not only can these movements be made with the apparatus shown to-night but there is a direct pulling forward of the head of the tibia and fibula. If this apparatus will do that satisfactorily, it will obviate the necessity of resection in some of these cases of sub-luxation and therefore I would like to hear the results of its trial.

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues and subscription for THE JOURNAL. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership. On receipt of the above subscription the weekly JOURNAL of the Association will be forwarded regularly.

All members of the Association should send their Annual Dues to the Treasurer, RICHARD J. DUNGLISON, M.D., Lock Box 1274, Philadelphia, Pa.

SATURDAY, MAY 26, 1894.

ABORTION.

In its consequences, there is no accident that can befall the child-bearing woman more serious than abortion. There is no doubt that a long period of invalidism, ending perhaps in a trying and critical operation or a tedious convalescence and slow regaining of a shadow of the former health, may have a starting point in an abortion. The picture is a familiar one to the gynecologist. A recent writer[1] has declared: "In my private or dispensary practice, it is an almost daily experience to meet a new case of advanced disease of the uterus and its adnexæ which from the history elicited can be clearly traced to an abortion." If such be the case, it behooves the physician to look upon abortion in its true light and prevent the unfortunate sequelæ, as far as possible, instead of regarding it as unlucky accident which will keep the woman in bed for a few days and there end.

The treatment naturally resolves itself into that of two periods; before the abortion has become inevitable and after the fetus has been expelled. In the early stages, while the fetus is yet alive, rest and opium in full doses may quiet the contractions of the uterus, stay the hemorrhage and enable the woman to go to term. When the hemorrhage is great, ergot in small doses, either alone or combined with hydrastis, has succeeded. Quinin in 2 grain doses every hour till cinchonism occurs has had a happy effect where a malarial taint was at the bottom of the mischief. But whatever the drug employed, absolute rest must be enjoined and without this all is futile.

In spite of the best endeavors, the contractions often keep up, and it is in this crisis, when the abortion is inevitable and the womb refuses longer to hold its unwelcome tenant, that the woman has the most need of the doctor's care and skill. He may find that the woman has been lucky enough to expel the whole product of conception—fetus, membranes and placenta—at once. Lucky indeed is the aborting woman who has nature for an accoucheur, when nature does all and leaves nothing for the doctor to do. But should this not happen, what is the attendant to do? Two courses lie open to him: He can either trust to nature that the placenta will be expelled before it becomes putrid and infects the woman, or he may take the better course and empty the uterus with his own hands. If he has true regard for his patient as a woman and a human being he will not allow her to run any risks of possible poisoning from a decomposing placenta. The operation is not a difficult one and while many special instruments have been devised for the removal of the placenta, after all the only instrument required is the hand of the operator. The one secret in the operation is that the woman be placed on a hard unyielding surface, such as a table, instead of the bed which, with its soft mattress, allows the buttocks to sink, thereby adding greatly to the difficulty of introducing the fingers within the uterus. Placing the woman in the lithotomy position, one hand is placed above the pubes to steady the uterus and bring it down on two fingers of the other placed inside. Gently the fingers go all over the cavity of the uterus, peeling off the placenta much as an orange is peeled out of its skin. When all is removed the uterus is washed out with an antiseptic and the woman returned to bed. Clean hands will have done the work and the woman should have no fever, no sequelæ of any kind.

There is little doubt that this is the proper treatment for abortion, and yet there are those who still cling to the older let-alone policy, arguing that all will be well and that nature will take care of the patient. In answer to them we say that the placenta in these cases holds the position of a foreign body and should be treated as such. There is little safety in allowing it to come away piecemeal in the course of days or weeks, and the rational treatment is that it should be removed at once. An adherent placenta would hardly be allowed to remain after natural labor, and it is false reasoning to permit it to stay after abortion.

Delay means the danger of septicemia and this danger may be averted by removing the cause by means of a curette with brains—the fingers. But, mark you, let those fingers be strictly, surgically sweet and clean, or fuel is added to the fire, and the doctor instead of a life and health-giver becomes an assassin who stabs the friend who trusted in him.

[1] Dr. Charles H. Bushong, Virginia Medical Journal, December, 1893.

HEALTH OF LARGE CITIES.

A late bulletin, with statistics, issued by the German Imperial Health Department, claims for Berlin the credit of being the healthiest city in the world. The death rate for 1893 is given as only 16.3 per

thousand. Alexandria in Egypt, despite its unvarying fine weather, its 300 fountains and its soft sea breezes, has a death rate of 52.9 per thousand and is, probably, the unhealthiest city in the world. London, with its enormous aggregate of 4,500,000 inhabitants, has a death rate of 20.3 per thousand.

These figures suggest some comparisons with the large cities of the United States. Among these Chicago ranks highest in point of salubrity. In 1893, with a population of 1,520,000, the death rate was 17.8 per thousand, or 1.5 per thousand greater than that of Berlin, with a population of 1,600,000—substantially the present population of Chicago.

Of other large American cities whose bills of mortality for 1893 are at hand, Baltimore ranks next with a population of 455,427 and a death rate of 20.54 per thousand; Brooklyn, population, 983,841, death rate 20.58; Washington, population, 250,000, death rate, 23.98; New York, population, 1,856,695, death rate 24.; Boston, population, 487,397, death rate, 24.02; Philadelphia, population, 1,115,562, death rate, 24.48.

In order of lowest death rates from zymotic diseases—including the tuberculoses—Chicago also ranks first, with a death rate of 6.8 per thousand; and the other cities named, as follows: Boston, 7 per thousand; Baltimore, 7.2; Brooklyn, 7.28; Philadelphia, 7.88; New York, 8.; Washington, 8.04. As to typhoid prevalence, as indicated by death rates, these cities rank in the following order—the rates given being per 10,000: Brooklyn, 1.83; Boston, 3.03; New York, 3.13; Philadelphia, 3.99; Chicago, 4.66; Baltimore, 4.92; Washington, 7.88.

The typhoid death rate is persistently excessive in Washington. During the six-year period ended May 31, 1890, it averaged annually 7.55 per 10,000 of population, and during the census year it rose to 8.62 per 10,000—only less than the proportions assumed in Philadelphia during the Centennial year. The reduction of typhoid in Chicago is marked. Between 1886 and 1889 the proportion of deaths from typhoid fever to deaths from all causes had fallen from 3.5 per cent. to 2.4 per cent.; but in 1890 it suddenly rose to 4.16 per cent., and in 1891 to 7.19 per cent., with the prodigious death rate for the disease of 16.64 per 10,000 of population; there were 385 more deaths from typhoid fever in the city of Chicago during 1891 than in the whole State of New York, with five times the population, and 1,400 more deaths than in London, with three and a half times the population. In 1892 this enormous rate had fallen to 10.4, and during the past year it has been still further reduced to 4.66 per 10,000 of population. Improvements in the manner of obtaining the water supply from Lake Michigan will, no doubt, still further reduce this rate, which is yet much too high.

KINGS COUNTY (N. Y.) LUNATIC ASYLUM.

The Supervisors of this County have adopted measures for placing the insane poor under the care of the State Board of Lunacy, and after that shall have been accomplished they will sell their asylum property to the State. It will probably be necessary to part with this property at the rate of about one-half million of dollars, the cost of which to the County has been about six times that sum. This sale and transfer of the insane will effect two desirable objects; first, the patients will obtain better care, by being separated from the influence of pot-house politicians; second, the County will be benefited to the extent of an annual saving of $200,000 in the tax-levy. The reason for this latter statement is seen in the fact that the Legislature of the State, when passing the "State Care Law," ordained that each and every county that refused to accept the provisions of State Care should be taxed just the same for the care of the insane of the entire State as if they accepted the terms of the law. If the overtures of Kings County, for the transfer of the County charges to the Lunacy Commission are successful, there will then remain only New York County persisting in its separation from State Care. This separation is dictated by political motives and the retention of a large amount of patronage by the Tammany Hall party now in control, rather than by incentives on behalf of the pauper insane. If Tammany Hall shall be driven out of power next fall, as hundreds of thousands of people believe, the State Care Law will undoubtedly be given full sway over the whole of the Empire State.

PRESUMPTIONS AS TO OPINIONS OF EXPERT WITNESSES.

The fact that a person is called as an expert, the Supreme Court of California holds, in HEALY v. VISALIA & T. R. Co., decided March 14, 1894, assumes that his opinion is based, not merely upon the empirical knowledge which he has gained through his own practice, but also upon that which he has acquired in the study of his profession, and from his intercourse with other members of the same profession. As an expert it is competent for him to give the grounds upon which he bases his opinion, as well as the opinion itself; and the fact that his opinion is based upon information derived from his reading does not make it incompetent for him to so state. It is entirely different for an expert witness, in making his answer to a question as to what are likely to be the results of certain injuries, to give as a reason for his opinion, "because" there are cases on record which have resulted in death, from reading medical or scientific books to the jury, or seeking to influence them by opinions or theories contained in such books. The witness being only asked to give his

own opinion, which he does under the sanction of his oath, it must be assumed to be a conclusion reached by him after a judicious comparison of all that he has read or learned upon the subject; and upon this opinion, as well as its source, he can be subjected to the most rigid cross-examination. Thus, in an English case it was held that medical books themselves can not be read, but that the witness, who was the President of the College of Physicians, could state, not only his judgment, but the grounds of it, which were in some degree founded on books, as a part of his general knowledge.

THE DEATH OF DR. ALBERT DAY.

Dr. Albert Day, for nearly forty years identified with the Washingtonian Home for Inebriates, Boston, as its Superintendent, died recently. He was the pioneer in the establishment of these useful institutions in our country. A scholar, a gentleman, a courteous man of the world, a true philanthropist, he will leave a vacant place very hard to supply. His modesty was in keeping with his great knowledge, and his thorough understanding of the physical conditions and psychic state of the inebriate, never led him into any species of personal advertising. He was content, in his unassuming way, to devote his life and talents to the service of the unfortunate creatures for whose benefit the Washingtonian Home was instituted. He did his work well, and we should not be stinted in praising the character of one who has done so much for suffering humanity, and so much to restore to manhood those who lost it by their own act, perhaps, but yet through defects in original constitution or acquired obliquity. May he sleep well.

LIABILITY FOR UNHEALTHFUL CONDITION OF JAILS.

The Supreme Court of Michigan holds, in the case of Webster v. Hillsdale County, decided March 6, 1894, that counties are not liable in damages for injuries to the health of prisoners in consequence of the unsafe, unsuitable, unwholesome, unventilated and unhealthful condition of their jails. The basis of this non-liability is said to be that counties are involuntarily territorial and political divisions of the State, created for the convenience of the government, and that certain public duties are imposed upon them as a part of the machinery of the State, for the performance of which no liability should attach, any more than it would to the State itself. The Legislature of Michigan, recognizing that cases might arise where prisoners would be injured in health by the unsanitary conditions of jails, enacted that when a jail should become unfit for occupation the judge of the circuit court should designate the jail of some other county for the confinement of prisoners. There would be as much good sense, the Court says, in holding the county liable for the neglect of the circuit judge as to hold it liable for the neglect of its supervisors. The duty in the one case is as imperative as in the other.

PHYSICAL EXAMINATIONS UNDER NEW YORK'S NEW LAW.

The General Term of the New York Court of Common Pleas holds, in Lyon v. Manhattan Railway Company, decided March 9, 1894, that under the new legislative enactment of 1893, an order for a physical examination of the plaintiff in personal injury litigation can not be made except in connection with, or as a part of, an order for the oral examination of the plaintiff before trial. This statute, the court says, leaves the question of ordering a physical examination in actions for personal injuries, to the discretion of the judge, unless the defendant proves "that he is ignorant of the nature and extent of the injuries complained of," in which case the court is bound to grant the order. The reason for connecting the physical examination with the oral examination is to afford the plaintiff, who is examined, as well as the defendant, who has demanded the examination, the benefit of such examination on the trial, and to that end to preserve the record of it. Where a physical examination is had, the questions put to the plaintiff, the answers thereto, and the testimony of the physicians by whom the examination is made, are (so far as required by either party) to be reduced to writing, verified, certified and filed, and may be read by either party.

CORRESPONDENCE.

Relation of the American Medical Association to the State, Interstate, and Railway and National Guard Surgeons Associations.

Kansas City, Mo., May 19, 1894.

To the Editor:—The writer drew up resolutions below given to present to the Tri-State Medical Society, Iowa, Illinois and Missouri, at its Kansas City meeting, April 3 and 4, 1894, and again prepared them for presentation at the meeting of the Medical Society of Missouri at Lebanon, Mo., May 15, 16, and 17. 1894, but it so happened that he was not present when opportunity offered for bringing up such matters, and therefore they were not offered at either time. However, a number of members of these Societies have read them, and urged him to present them, even at a very late hour, at the meetings of these Societies, all expressing the opinion that the measures would be of the very greatest benefit to the Associations interested. As the carrying out of these resolutions involves many very radical changes in Constitutions and By-Laws, they are matters not to be hastily considered. I therefore send them to you to publish, if possible before the San Francisco meeting, as there can be no harm in canvassing the matter.

Resolutions offered for adoption at the thirty-seventh annual meeting of the Medical Association of the State of Missouri, May, 1894.

Preamble:—Whereas, the American Medical Association, and the Journal of the American Medical Associa-

TION, are representative organs of the medical profession of this country, and this Association, and similar State associations are the representative societies of the States and territories; and

WHEREAS, A number of societies, representative of the general profession of two or more States, and other associations, representing large numbers of the profession engaged in special lines of professional work, have been formed throughout the country; and

WHEREAS, The interests of these State societies and associations would be advanced by a more intimate relation with the AMERICAN MEDICAL ASSOCIATION, and their proceedings would, if published in the JOURNAL, reach a much greater number of readers, and the strength and usefulness, and the higher character and efficiency of officers of the American and the State and Inter-State organizations would be reached, if these officers were, in part, chosen in common to the subordinate and national societies. Therefore be it

Resolved, That this Association respectfully petitions the AMERICAN MEDICAL ASSOCIATION to become a local branch of that body, and to have its President, and the Presidents of other societies having received a like recognition, and having a membership of over one hundred members be *ex-officio* Vice-Presidents of the AMERICAN MEDICAL ASSOCIATION, and that all such branches shall annually elect five Vice-Presidents, the first of whom shall be *ex-officio* member of the Executive and Nominating Committees of the AMERICAN MEDICAL ASSOCIATION, with the remaining Vice-Presidents in the order of succession as alternates; the Secretaries of such branch societies be made *ex-officio* associate editors of the JOURNAL. That the proceedings of these subordinate bodies after reference to their own committees on publications, and the editorial staff of the JOURNAL, (as much as is not unsuitable), shall be published in the JOURNAL. The privilege of the membership of the branch society constituting also a membership in the American society, be conditional on the payment of a membership fee, which shall be agreed upon and established by the By-Laws of the two societies; a percentage of which will go to the support of the JOURNAL.

Further resolved, That a copy of these resolutions be transmitted to the AMERICAN MEDICAL ASSOCIATION, the representative State and Territorial medical societies, and the State, and Inter-State societies, and Associations of Railway Surgeons, Military and National Guard Surgeons.

Some of the advantages that it seems to the writer would come from adopting the plan above outlined, would be: First, doubling or trebling the membership of the ASSOCIATION, and the subscribers to the JOURNAL, increasing the dignity and importance of the offices of the subordinate associations, and bringing to the meetings of the AMERICAN MEDICAL ASSOCIATION a larger body of well-qualified men from which to select the President and other officers, to increase the quality of the papers prepared for the meetings of these associations, by making the feeling in those preparing papers that they were addressing the profession of the country through a widely distributed JOURNAL, rather than burying their work in a publication of Transactions seldom read by fifty members of the profession, either members of the society, or outside of the society. It would better provide for weeding out the inferior papers, by having them pass through the hands of the local committee, and then through the hands of the editors of the JOURNAL, by taking the responsibility of rejection away from home.

The Executive Nominating Committee constituted outside of the AMERICAN MEDICAL ASSOCIATION would do away with the so-called medical politics, of which the writer knows nothing excepting hearsay from his fellow-members of the ASSOCIATION, yet he has heard that frequently enough to believe that there must be some fire where there is so much smoke and judging from the men who have represented his State in the years he has been a member of the ASSOCIATION, he is inclined to think the methods of the politician stand a good chance.

The officers selected in the subordinate societies would be of higher character, from the very fact that a position in the AMERICAN MEDICAL ASSOCIATION was assured by election to certain offices in the home society.

It seems to the writer that the interest in all of these bodies would be increased by this relation, and that there is no reason why the JOURNAL should not have 25,000 or 30,000 subscribers, instead of less than 5,000, if this arrangement was made.

There is nothing new in the suggestion, as it is very much the one in practice by the British Medical Association, the journal of which is said to have 70,000 subscribers.

JOSEPH SHARP, M.D.

ASSOCIATION NEWS.

Executive or Business Committee.—The first meeting of the Business Committee of the ASSOCIATION will be held in Parlor A, Palace Hotel, San Francisco, on Monday, June 4, at 5 o'clock.

A full attendance is requested in order that the Committee may get to work early, and be ready for business referred to it by the ASSOCIATION.

Subsequent daily meetings will be held in the same place, which has been secured for the purpose by the Committee of Arrangements. The time of subsequent meetings will be determined by the Business Committee.

L. DUNCAN BULKLEY, M.D., Secretary.

The Forty-fifth Annual Meeting.—The AMERICAN MEDICAL ASSOCIATION will meet in San Francisco June 5 to 8 inclusive.

The entire work of the ASSOCIATION will be done in Odd Fellows Building, Cor. Market and Seventh Streets.

Exhibition room for instruments, pharmaceutical preparations, etc., is also in this building.

Registration will begin in Marble Hall, Palace Hotel, on Monday, June 4, when all who arrive early enough should register to avoid the rush on Tuesday. Working hours of the Sections will be from 9 to 12 and 2 to 5—except the forenoon of the first day. The General Assembly will convene at 10 o'clock on Tuesday.

The following hotels have quoted special rates for members and their families: Palace, Grand, Lick, Russ, Occidental, California, Baldwin and Pleasanton.

There will be room for all. Visitors desiring to engage rooms in advance can do so by communicating directly with the hotels or with R. A. McLean, 305 Kearny Street, Chairman Committee on Hotels. Headquarters at Palace Hotel where there will be a concert in the Grand Court, Monday evening, June 4.

Tuesday evening a reception will be held at Pioneer Hall; Wednesday evening at Cooper Medical College; Thursday evening at the Mid-winter Fair, and Friday evening at the Hopkins Art Institute. The Ladies' Committee on Reception—Headquarters Palace Hotel—will provide entertainment for visiting ladies during the day.

Saturday will be devoted to an excursion around the Bay, starting at 9 o'clock and returning at 5, passing in view of the Irving Scott Ship-building Yards, Spreckles' Sugar Refinery, United States Military Posts—Alcatraz, Fort Mason, Presidio, Fort Winfield Scott, and out to the "Heads" for a touch of old ocean; returning pass United States Quarantine Station and land at Mare Island where an hour will be spent inspecting the Government Hospital and reconstruction works.

Railroad tickets will be good for return till July 15. Members will therefore have time to make numerous side excursions in the State, after the meeting. On the S. F. & N. P. Railway the rate for such excursions will be a single fare for a round trip.

The Southern Pacific Company's rate will be one and a fifth to one and a third fare for a round trip. Some of our

seaside and mountain resorts, mineral springs and sanitariums will well repay for time spent on a visit. Among them are Santa Cruz, Del Monte, Santa Barbara, Santa Monica and Coronado; peerless Yosemite and her giant sequoia forests, Lake Tahoe and Mount Shasta, Pass Robles, Arrowhead, Gilroy Hot, Byron, Soda, Vichy, Geysers, Harbin, Bartlett, and Highland Springs, all possessing medicinal virtues, and justly popular with our own people. Special inducements are offered at all these places. Pass Robles Hotel offers the best entertainment for members at half regular rates, and Highland Springs, in the Switzerland of America, with its latchstring on the outside, invites members to come and partake of its hospitality, free as the bubbling waters of its Springs.

June will be the height of the season for the Alaska excursion, unequaled by any other trip in the world save that to North Cape. Members who desire to secure accommodations in advance for this trip can do so by applying to the Committee of Arrangements.

Any one desiring to secure space in Exhibition Hall should apply to R. L. Rigdon, Nucleus Building, Chairman Committee on Exhibits.

If members who are getting up excursions will immediately send us approximately the number we may expect from their respective localities it will simplify our work of preparation for reception and entertainment.

We request also, that they will wire us the exact number on departure of their trains.

R. H. PLUMMER, Chairman.

Section on Diseases of Children.—Address of the Chairman, W. S. Christopher, Chicago.

Tuberculosis Largely Preventable in Children of Rural Districts, W. A. Dixon, Ripley, Ohio.

Some Hints as to the Management of Children Predisposed to Pulmonary Tuberculosis, Jos. W. Stickler, Orange, N. J.

Some Practical Points on the Care of the Newly-born, Henry E. Tuley, Louisville, Ky.

Derangements of the Kidneys in the Lithemia of Children, J. M. G. Carter, Waukegan, Ill.

Continuous Malarial Fever in Children, H. H. Sutton, Aurora, Ind.

A Case of Exophthalmus in an Infant of Three Months, Harriet E. Garrison, Dixon, Ill.

Infantile Spinal Paralysis, Wm. E. Wirt, Cleveland, Ohio.

Chorea, Geo. N. Highley, Conshohocken, Pa.

Differential Diagnosis between Acute Meningitis and Stercoraceous Poisoning, with Report of Twenty Cases, B. A. Waddington, Salem, N. J.

Auto-intoxications, and the Acquired Neurotic Disease in Children, Jas. G. Kiernan, Chicago.

A Unique Case of Epileptiform Convulsions in an Infant, J. A. Hoffheimer, New York.

Epilepsy in Children, Frank P. Norbury, Jacksonville, Ill.

Overfed Infants—Some of the Results—Treatment, J. A. Work, Elkhart, Ind.

Cholera Infantum, H. Illoway, Cincinnati.

The Use of Physostigma in Cholera Infantum, and Cerebro-Spinal Congestions, J. Schneck, Mt. Carmel, Ill.

Some Obscure Bowel Lesions in Childhood, S. J. Radcliffe, Washington, D. C.

Developmental Defects of Childhood in their Practical Bearings, J. Madison Taylor, Philadelphia.

The Use of Methyl Violet in Diphtheria, Wm. P. Munn, Denver, Col.

Treatment of Diphtheria, H. S. Anders, Philadelphia.

Empyema in Children, Robert Carothers, Newport, Ky.

The Diagnosis of Pneumonia in Children, Edward H. Small, Pittsburg, Pa.

Treatment of Pneumonic Fever in Children, Edward F. Wells, Chicago.

Scarlatina and Streptococcic Infections, Rosa Engelmann, Chicago.

Osteo-plastic Manipulations by an adjunct in the Effective Surgical Treatment of Hare-lip, T. W. Manley, New York.

Malformations of the Rectum in New-born Children, J. C. Oliver, Cincinnati, Ohio.

Some Remarks on Eczema of Children, W. M. Holton, New Harmony, Ind.

A Paper, C. A. Brandt, Savannah, Ga.

SOCIETY NEWS.

American Orthopedic Association.—Program of the eighth annual meeting, to be held at Washington, D. C., May 29, 30, 31 and June 1, inclusive.

The sessions will be held in the Preparatory Department, Columbian University, H. near 14th Street. The annual dinner will be omitted, and instead a breakfast will be given by the outgoing President at 2 P.M. on Wednesday at the Shoreham, to members of the Association. This will give the members an opportunity to attend the dinner of the General Congress on Wednesday evening, to which they are all invited. The President's address will be delivered on Wednesday after the Executive Session, on: Orthopedic Surgery, of the Past and Future, and the Influence of Surgical Bacteriology and Modern Pathology upon the Subject.

Officers for 1894: President, Dr. A. M. Phelps, New York; First Vice-President, Dr. Augustus Wilson, Philadelphia; Second Vice-President, Dr. Harry M. Sherman, San Francisco; Secretary, Dr. John Ridlon, Chicago; Treasurer, Dr. E. G. Brackett, Boston.

Member of the Committee on Arrangements for the Congress of American Physicians and Surgeons: Dr. DeForest Willard, Philadelphia.

Committee on Membership: Dr. L. A. Weigel, Dr. A. J. Gillett, Dr. Ansel G. Cook, Dr. J. D. Griffith, Dr. John C. Schapps.

Publication Committee: Dr. E. H. Bradford, Dr. J. E. Goldthwait, Dr. Samuel Ketch.

Member of Executive Committee, Congress of Physicians and Surgeons: Dr. Newton M. Shaffer; *Alternate*, Dr. Ap Morgan Vance.

The Treatment of Severe Forms of Club-foot, Dr. Edmon Owen, London.

Tarso-Clasis for Club-foot, Mr. Nicholas Grattan, Cork.

The Abuse of Phelps' Operation for Club-foot, Dr. James E. Moore, Minneapolis.

Phelps' Method for Talipes Varo-Equinus, Dr. H. P. Kaptyn, Abcande, Holland.

Phelps' Method for the Cure of Club-foot in Adults, Dr. Wm. E. Wirt, Cleveland, Ohio.

Phelps' Method of Treating Severe forms of Club-foot, Dr. Cordua, Hamburg, Germany.

The Place of Traction in the Treatment of Club-foot, Dr. Newton M. Shaffer, New York.

Elastic Traction in the Immediate Treatment of Club-foot, Dr. Bernard Bartow, Buffalo.

Some Observations on the Anterior Transverse Arch of the Foot and its Obliteration as a Cause of Metatarsalgia, Dr. Joel E. Goldthwait, Boston.

Final Results in 100 Cases for Operation of Deformities, following Hip-Joint Disease, Dr. V. P. Gibney, New York.

The Treatment of Hip Disease and the Application of Lateral Traction, Robert W. Lovett, Boston.

a, the Question of Priority in the Application of Lateral Traction to Relieve Intra-Articular Pressure in Hip-Joint Disease; *b*, the Presentation of New Knee and Ankle Splints; *c*, the New Improved Celluloid Corset; *d*, an Original Operation for Wry-Neck, Dr. A. M. Phelps, New York.

Blanchard's Hip Splint, Dr. Wallace Blanchard, Chicago.

What Results should We try to Attain in the Treatment of Hip-Joint Disease, Dr. Reginald Sayre, New York.

Cases of Hoffa's Operation for Congenital Dislocation of the Hip-Joint, Dr. E. H. Bradford, Boston.

Lorenz's Operation for Congenital Dislocation of the Hip, Dr. A. Lorenz, Vienna.

Congenital Dislocation of the Hip, Dr. T. Halsted Myers, New York.

a, the Results in Talipes Varo-Equinus after Phelps' Operation; *b*, the Limits of Operative Treatment in Congenital Dislocation of the Hip, Dr. Sigfred Levy, Copenhagen.

Congenital Dislocation of the Hip, Dr. L. A. Weigel, Rochester.

Peculiar Nervous Symptoms occurring in Pott's Disease of the Spine, Dr. Leroy W. Hubbard, New York.

Relief of the Spondylitic Spine from the Concussion of Walking, Dr. John C. Schapps, Brooklyn.

Spondylitis, Dr. A. J. Steele, St. Louis.

The Treatment of Old Neglected Cases of Deformity following Polio-Myelitis, Dr. S. L. McCurdy, Dennison.

Observations on Rachitic Distortions of the Neck of the Femur in Adolescence and its Significance, Dr. Royal Whitman, New York.

Infantile Apoplexy and Paralysis, and some of their Consequences, Mr. W. J. Little, England.

The Etiology of Deformities in Knee-Joint Disease, Dr. A. E. Hoadley, Chicago.

The Care of the Bony Frame in Infancy and Childhood, Dr. J. B. Ransom, Dannemora, N. Y.

Diseases of the Knee-Joint, Dr. J. D. Griffith, Kansas City.

Excision of the Knee for Relief of Crippling from Infantile Paralysis, Dr. Ap. Morgan Vance, Louisville.

The Treatment of Lateral Rotary Curvature of the Spine by Non-Restorative and Developmental Methods, Dr. B. E. McKenzie, Toronto.

The Improved Machine for Treating Scoliosis, Dr. Max Schede, Hamburg.

Scoliosis, Dr. A. B. Hosmer, Chicago.

Excision of the Sac in Spina Bifida, Dr. DeForest Willard, Philadelphia.

On the Application of the Principle of Extension in the Treatment of Wry-Neck, Messrs. Wm. Adams, F. R. C. S., and R. W. de Sante, F. R. C. S., London.

Lorenz Osteoclast, Dr. F. S. Coolridge, Chicago.

A Case of Ankylosis of the Jaw in a Child; Resection, Recovery, with Good Motion. Dr. Dillon Brown, New York.

Excision of the Wrist-Joint by a New Method, Dr. Herman Myner, Buffalo.

Disease of the Shoulder-Joint, Dr. W. R. Townsend, New York.

Titles to be announced, Drs. W. J. Taylor, Philadelphia, and W. O. Plimpton, New York.

Fixation and Traction in the Treatment of Fractures into Joints, Dr. Ansel G. Cook, Hartford.

Title to be Announced. Dr. James Kerr, Washington, D. C.

First Discussion, first day: Flat Foot. *a*, Its Etiology and Mechanism of its Production, Dr. Newton M. Shaffer, New York; *b*, Pathology, Prognosis and Mechanical and Surgical Treatment, Dr. T. C. Morton, Philadelphia; *c*, Gymnastic Treatment, Dr. H. Augustus Wilson.

Drs. Royal Whitman, New York, Sidney Roberts, Philadelphia; J. D. Griffith, Kansas City, Roswell Park, and others will take part in the discussion.

Second Discussion, second day: Rachitic Deformities. *a*, Etiology, Clinical History and Lesions, Dr. A. Jacobi, New York; *b*, Its Various Manifestations, Diagnosis, Differential Diagnosis and Prognosis, Dr. Benj. Lee, Philadelphia; *c*, Mechanical and Constitutional Treatment, Dr. Samuel Ketch, New York; *d*, Operative Treatment, Dr. DeForest Willard, Philadelphia.

Third Discussion, third day: Paralytic Deformities. *a*, Etiology, Clinical History, and Pathological Conditions producing them, Dr. E. H. Bradford, Boston; *b*, Varieties, Diagnosis, Differential Diagnosis and Prognosis, Dr. E. G. Brackett, Boston; *c*, Mechanical Treatment, Drs. John Ridlon, Chicago, and Joel Goldthwait, Boston; *d*, Operative Treatment, Paralytic and Rachitic Deformities, Dr. DeForest Willard, Philadelphia.

The Red Cross.—The following report of the Committee of the Association of Military Surgeons of the United States on the proposed Act of Congress for the protection of the insignia and name of the Red Cross, was unanimously adopted and has been transmitted to the President of the Senate by the President of the Association, Surgeon-General George M. Sternberg, U. S. Army:

WHEREAS, In the International Convention at Geneva, Switzerland, Aug. 22, 1864, twelve nations of the world met and formulated Articles of Treaty, for the purpose of mitigating the evils inseparable from war; of suppressing the needless severity, and particularly providing that persons employed in hospitals, and affording relief to the sick and wounded, and supplies for this purpose, shall be deemed neutral and entitled to protection; and that a distinctive and uniform flag shall be adopted for hospitals and ambulances, and convoys of sick and wounded, and an arm badge for individuals neutralized; and

WHEREAS, Said treaty has been ratified by every civilized nation of the world with one or two exceptions of minor importance; and

WHEREAS, The flag adopted was the distinctive sign of the Red Cross alone, under which insignia or sign, the purposes of the treaty shall be carried into effect, the same being a red Greek cross on a white ground, and which shall constitute the military hospital flag of all the nations within the treaty and designate all persons serving under it; and the same is adopted and used throughout the world; and

WHEREAS, The United States gave its adhesion by Act of Congress, March 1, 1882, which was ratified by the International Congress of Berne, June 9, 1882, and proclaimed by President Arthur, July 26, 1882, thus adopting by solemn compact and treaty this universal and only military hospital flag; and as the insignia is prescribed in the United States Army Regulations, they are a part of the equipment of regular armies and militia and are incorporated in the rules of the government and regulations of the land forces; and

WHEREAS, The unauthorized use of said insignia in all countries within the treaty, becoming a source of embarrassment and serious injury causing perplexing complications to arise, all of the nations under said treaty have taken vigorous action against this evil, and have passed stringent laws with heavy penalties for the protection of this special insignia; and

WHEREAS, The same great evil exists to-day in this country—the merchant prince, the manufacturing chemist, the speculator and huckster alike, seizing upon and adopting for purposes of trade and barter, this greatest of humanitarian emblems, made sacred by solemn compact and the wisest of counsel; and

WHEREAS, The fact becoming known that this country has no laws for the protection of the Red Cross, the whiskies, drugs, pills and nostrums of the world, bearing the Red Cross on their labels, are being imported; thus the laws for the protection of the sign in other countries, are working us positive and fatal injury and, unless this wrong shall be righted and this Congress protect the interests of the Government, the Red Cross will be brought into such contempt that its value as a relief sign will be gone and its usefulness utterly destroyed; and

WHEREAS, The American National Red Cross—the United States branch of the International Red Cross—has, through its honored President, Miss Clara Barton, been endeavoring for five years to secure by Act of Congress, at least a measure of the protection which is accorded this emblem in other countries; and

WHEREAS, A Bill "to protect the insignia and the name of the Red Cross" was introduced in the House of Representatives this session and, on March 23, passed unanimously without alteration or amendment, referred to the Senate, read twice and referred to the Committee on Foreign Relations; and, therefore, be it

Resolved, That we, the Association of Military Surgeons of the United States, in Congress assembled, do earnestly recommend the Bill now before the Committee on Foreign Relations for the protection of the insignia and name of the Red Cross, and urge its immediate passage.

Respectfully submitted,

ALBERT L. GIHON,
Medical Director U. S. Navy, Chairman.
LEONARD B. ALMY,
Lieut.-Col. and Medical Director Ct. N. G.
CHARLES SMART,
Major and Surgeon U. S. Army.

NECROLOGY.

MARTIN LUTHER, M.D., of Reading, Pa., died on February 23.

EDWARD F. DRAYTON, M.D., of Brooklyn, N. Y., died Saturday, May 5, in the sixty-sixth year of his age. He was a naval surgeon during the late war. After the war he settled in Brooklyn and interested himself in certain matters of public improvement, especially in street transit. He was for a time the president of one of the important companies. His death was due to lobar pneumonia.

DAVID CRARY, M.D., probably the senior medical man of Connecticut, died April 16, at Hartford, from senile asthenia. He was born in Wellingford, Vt., April 18, 1806, and had practiced medicine there and in Hartford since 1838. He had assisted at the birth of more than three thousand children. He was a member of the Hartford County Medical Society and the Connecticut Medical Society and was a noted fox hunter. He has been twice married and leaves three children. Dr. David Crary, Jr., and Edwin Crary, of Hartford, and Frank Crary, of Wisconsin.

PUBLIC HEALTH.

Physical Education.—At a recent meeting in Exeter Hall, London, Eng., the appointment of a Minister of Physical Education was suggested and seriously discussed. One of the speakers, the Marquis of Caermarthen, M.P., said that gymnasiums should receive substantial aid from the government, "the proper physical culture of the people being a matter of greatest national importance."

Compulsory Vaccination in Public Schools.—The U. S. Commissioner of Education, the Hon. W. T. Harris, in a recent interview, expresses himself as "opposed to the compulsory vaccination of public school pupils." He adds: "However, I believe that children should be refused admission to the schools when it is found that they lack evidence of having been vaccinated." It would be interesting to learn the Commissioner's definition of "compulsory vaccination." He would not compel a public school pupil to be vaccinated; but—if it didn't show evidence of having been vaccinated he would compel it to cease to be a public school pupil.

Sanitation of Mexico.—For centuries the City of Mexico has suffered from the pestilential exhalations of the bed of the lake which is the site of the city, and its growth has thereby been seriously retarded. The great sewer, intended to drain this area is now completed at a cost of nearly $10,000,000, and is pronounced as important a work in modern engineering as the Manchester ship canal; while, as a sanitary undertaking, it is expected to benefit the Mexican capital to a greater extent even than the English city will be benefited commercially by her enterprise.

Yellow Fever.—The attention of the Treasury Department having been called to the fears of a possible recurrence of yellow fever at Brunswick, Ga., Acting Secretary Curtis has requested the Department of State to instruct United States consuls stationed in the Atlantic seaports of South America, Central America, Mexico and in all the West Indian ports, particularly those of Cuba, to notify masters of vessels leaving such ports for any port in the United States between the southern boundary of Virginia and the western extremity of the Mississippi coast, that "if yellow fever or if fever suspected of being yellow fever, appears on board any such vessel during the voyage; or if the master has reason to believe during the voyage that the vessel is infected with yellow fever, said vessel, en route to her port of destination, should repair to the United States quarantine station at Dry Tortugas, Fla., or if more convenient, to the United States quarantine station at Blackbeard Island, Sapelo Sound, Ga., for inspection or treatment."

Smallpox.—With the gradual subsidence of the smallpox epidemic, reports become more and more meager and incomplete. The following is a summary of those received during the past week:

Dr. Benjamin Lee, Secretary Pennsylvania State Board of Health, reports May 17, since April 11, a total of 61 cases at 17 different points, to-wit: Philadelphia 5 (2 traced to Danville or neighborhood), Harrisburg 2, Danville 6, Lee 16 (origin Danville), Shickshinny 7, (origin Danville), Muncy 1, Jerseytown 1 (origin Danville), Reading 4, Lewisburg 1, Blandon 4, Walnuttown 1, Lidel's 1, Hyde Park 2, West Hempfield 1, Derry Township 3, Lewistown 3 (origin Danville), Dorrancetown 1 (origin Danville). Dr. Lee also reports 3 cases of typhus, isolated in the Municipal Hospital, Philadelphia, "probably imported via New York."

Dr. J. W. Scott, Secretary Illinois State Board of Health, reports, May 22, for the State outside of Chicago, only three infected points remaining, to-wit: Havana 1, Evanston 2, Aurora 1; origin in all cases, Chicago. In Chicago there has been a notable decrease since May 18, the daily reported cases since last summary being as follows: May 15, 37 cases; May 16, 28; May 17, 33; May 18, 14; May 19, 8; May 20, 6; May 21, 5. Total cases from January 1 to May 21, 1,690. The energetic enforcement of the measures detailed in the last smallpox summary would seem to have got the outbreak under control for the present season; and there is ground to hope for an avoidance of any recurrence next fall in the wholesale vaccination still being vigorously carried on. Between May 1 and 21 inclusive, the Health Department used 304,900 vaccine points, and this is exclusive of the vaccinations by private physicians.

Dr. C. N. Metcalf, Secretary Indiana State Board of Health reports cases in Fulton, Marshall, Pulaski and Wayne Counties. He also reports that there had been 31 cases with 10 deaths in Fulton County; that the greatest negligence had characterized the treatment of the outbreak and that the local health officer had been removed for incompetency. All State benevolent and penal institutions have been closed to visitors by order of the State Board of Health; neither patients, visitors or other persons are admitted without a permit from the Board.

No new cases reported in Minnesota—the last having been two cases at Duluth, announced May 8.

Dr. M. O'Brien, Secretary Kansas State Board of Health, reports, May 22, 30 cases in Atchison.

Dr. J. T. Reeve, Secretary Wisconsin State Board of Health reports, May 19, a case at Wausau and one at Milwaukee, "both traceable to Chicago."

Suppression of Tuberculosis.—The crusade against consumption is growing. The Massachusetts State Board of Health, in a recent exhaustive circular, recommends local boards of health to distribute widely a notice, in substance as follows:

"Consumption is the most destructive disease of New England, the number of persons dying annually from this cause in Massachusetts amounting to nearly six thousand.

"The disease is infectious and can be communicated from one person to another. The chief danger consists in the expectoration of the sick; if the expectorations be carefully destroyed little danger need be feared.

"Consumptives should be instructed not to spit upon the floors of rooms, public halls, street and railway cars and other vehicles, nor in the streets; but into pieces of cloth or receptacles made for the purpose containing water or a saturated solution of carbolic acid. Such bits of cloth should be destroyed by fire before the sputa becomes dry; and other receptacles should be cleansed with scalding water—their contents having been destroyed or otherwise carefully disposed of. Handkerchiefs, which may have been used from necessity, should be boiled half an hour before being washed.

"A healthy person should not sleep in the same room with a consumptive.

"Remember that sputa must never be allowed to become dry."

The Committee on Tuberculosis of the District Medical Association of Washington, D. C., in its report, submitted at the meeting of May 16, shows that in the District of Columbia from 1883 to 1892 8,091 persons died from tuberculosis, the percentage of deaths from that disease to all deaths being 15.87 during the ten years. In Philadelphia there were 76,272 deaths from this disease from July, 1860, to April, 1892. In New York the autopsies in hospitals show that 60 per cent. of the patients were affected with the disease, though they did not die of it, and it is estimated that one death in seven throughout the whole world is due to tuberculosis. The committee recommends:

"1. That a committee be appointed to prepare the manuscript for circulars or pamphlets, with the view of having the same distributed among the people, setting forth the facts, that each person having consumption is a constant source of danger to others not thus afflicted; that the disease is curable, and, above all, that it is easily preventable.

"2. That hospital authorities be urged to set apart certain

wards for the exclusive use of consumptives; although the committee believes that special hospitals for this purpose are preferable.

"3. That physicians be especially requested to inform their consumptive patients of the necessity of thorough disinfection of the sputa and of the methods by which this can be accomplished; and further, that they insist that the rooms once occupied by consumptives be thoroughly disinfected before they are again inhabited.

"4. That the Society take such action as will best procure the enactment of a law whereby no milk can be offered for sale until the cows from which said milk was taken have been tested and found to be free from tuberculosis. Furthermore, it is recommended that the health officer of the District of Columbia shall be requested to formulate such regulations as will insure to all persons purchasing vaccine virus in this District a guaranty that the animals whence such material has been obtained were treated with tuberculin and proved free from tuberculosis."

Epidemic Smallpox in Large Cities.—At the recent Conference on the smallpox situation, the following measures were recommended for adoption in dealing with an epidemic outbreak of smallpox in a large city:

1. The city should be divided into districts containing not more than 10,000 people.

2. Each district should be placed under the supervision of a competent medical inspector with necessary assistants: *a*, to make a house-to-house inspection; *b*, to successfully vaccinate, within the shortest possible time, all persons who have not been vaccinated during the outbreak—the first vaccination to be completed within seven days; *c*, to properly disinfect all houses and their contents where smallpox occurs.

3. Necessary means and appliances for efficient disinfection of materials, premises, etc., should be provided as the exigencies of each district may require.

4. Each case of smallpox should be immediately removed to a suitably constructed and properly equipped and officered isolation hospital.

5. Except in extreme cold weather, hospital tents, as prescribed in the United States Army Regulations, floored and warmed, are preferable to the average hospital or private dwelling, and increase the chances of recovery of the patients. Cases of smallpox necessarily retained in their own homes should, with their attendants, be rigidly isolated during the period of danger, and physicians visiting such patients professionally should be subject to such regulations as may be prescribed by the local health officer.

6. Persons exposed to smallpox contagion should be immediately vaccinated and kept under observation for not less than fourteen days from time of last exposure.

7. It is the sense of this Conference that unless such measures are enforced, it will be necessary for neighboring cities and States to exclude all persons from such city who are not protected against smallpox by recent vaccination, and to require proper disinfection of all clothing, baggage and merchandise capable of conveying smallpox infection.

Signed by

JOHN B. HAMILTON,
Surgeon U. S. Marine-Hospital Service.
ARTHUR R. REYNOLDS,
Health Commissioner of Chicago.
C. N. METCALF,
Secretary Indiana State Board of Health.
D. C. RAMSEY, and
L. L. WHITESIDE,
Members Indiana State Board of Health.
J. T. REEVE,
Secretary Wisconsin State Board of Health.
HENRY B. BAKER,
Secretary Michigan State Board of Health.
F. W. REILLY,
Ex-Secretary Illinois State Board of Health.
J. W. SCOTT,
Secretary Illinois State Board of Health, and Chairman of the Conference.
C. O. PROBST,
Secretary Ohio State Board of Health, and Secretary of the Conference.

MISCELLANY.

No Code Instructions.—The Illinois Medical Society, at its last annual meeting appointed its delegates to the AMERICAN MEDICAL ASSOCIATION without instructions on the Code revision.

Charity Hospital for Consumptives.—A number of wealthy New York women have purchased a large tract of land at the foot of the Saranac Mountains near Liberty, N. Y., and intend to erect thereon a charity hospital for consumptives.

Deep Artesian Well in Lower New York.—An artesian well, 1,056 feet deep, was completed last week at the home office of the Manhattan Life Insurance Company, on New Street, New York City. The water that will thus be obtained will be used for sanitary purposes and for the elevators.

Dr. Balch's Successor.—Dr. J. F. Barnes, of Watson, N. Y., has been elected Secretary of the New York State Board of Health, to succeed Dr. Balch, whose resignation has been accepted, to take effect June 1, prox. Dr. Florence O'Donohue was reëlected President for the ensuing term.

A New Disease.—"Mary," said a lady to her colored servant; "you said you lived with a man and his wife and one of them died?"

"Yes, mum; Dr. Blank said she had 'intejection' so long before he saw her that he could not cure her."

A Nobly Generous Doctor.—The *Congregationalist* states that Dr. W. Pepper, LL.D., after thirteen years' service has resigned as Provost of the University of Pennsylvania. A check for $50,000 accompanied the letter. It states also that he has during each year of service given from between $20,000 to $30,000! Such beneficence deserves the highest approval.

New York Post-Graduate Hospital.—On May 8 the new buildings belonging to this school, at the corner of Twentieth Street and Second Avenue, were thrown open to the profession and the public. The babies' ward is the first to be occupied and is regarded as a model apartment for invalid infants. One of the new features of this ward is an ingeniously devised *couveuse*, or incubator for prematurely born and asthenic infants. This *couveuse* has an unfailing supply of fresh air drawn into its interior through a filter of antiseptic cotton, and a weighing attachment or balance whereby the weight of its inmate can be ascertained at any time; also, an improved means of effecting the uniform radiation of heat for the benefit of the child. The other wards or rooms are to be completed for occupancy during the present month.

Summer College of Biology.—The third annual session of the Cold Spring, New York, Biological Laboratory will open July 5. Lectures will begin on the following day. The regular courses of instruction include comparative embryology, bacteriology, advanced botany, elementary zoölogy and elementary botany. In addition will be given a series of fifteen illustrated lectures on popular scientific subjects. For young folks who have a liking for out-door study and natural history, the opportunities for a rational use of vacation time are scarcely to be surpassed anywhere in the wide country. Cold Spring Harbor is thirty-two miles from Brooklyn and New York on the Long Island Railroad. The Laboratory is at the head of the harbor and on the north shore of Long Island. The Laboratory fee for five weeks is $15; for eight weeks, $24; rooms cost from $1.50 to $3 per week and board about $4.50 per week.

Washington Notes.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.—The election of officers of the Board of Directors of the Central Dispensary and Emergency Hospital on May 11, resulted in the selection of Mr. C. J. Bell for President; Mr. Henry F. Blount, Vice-President; Mr. Wm. B. Gurley, Treasurer, and Mr. H. Randall Webb, Secretary.

DR. LEONARD BELL, of Indianapolis, Ind., who for the past year has been Second Assistant, was elected to fill the office of Resident Physician.

ASSISTANT RESIDENT PHYSICIANS.—A competitive examination for First and Second Assistant Resident Physician, will be held on the 25th instant. This is open to any graduate of any regular medical college in this country.

A COLORED MAN with confluent smallpox arrived in this city on the 12th instant, via railroad, and was promptly taken to the pest house. Dr. J. R. Nevit has charge of that institution and this case, and reports the patient to be in a dangerous condition. Previous to going to the hospital the patient was in close association with a number of persons on the train and in the depot. It is hoped that the powers that be will exhibit more discretion in dealing with this dreaded disease than they did in the health affairs of the Coxey camp.

MEDICAL DEPARTMENT GEORGETOWN UNIVERSITY.—The graduating exercises of the Medical Department Georgetown University were held May 8, and twenty students received their diplomas. Professor William H. Hawkes A.M., M.D., delivered the annual address to the graduates, advising them that their profession is also a business and urged them to place a proper estimate upon their medical services, and to use every honorable business means for the enforcement of their just claims.

THE ARTICLE in the JOURNAL of May 5, referring to the bad sanitary condition of the Coxey camp had a decided influence on the lay press and health authorities here. Of the former, the Washington *Post* was the first to urge the abating of the nuisance. Notwithstanding the daily accounts of the bad conditions existing, the local authorities did not declare the camp "unsanitary and a menace to the public health" until May 9. Three days later (the 12th) the army left the city, camping in Bladensburg, Md., where they have again selected an unhealthy location. It would appear to be decidedly prejudicial to public health for large numbers of men under the conditions found in this army to travel about, from more or less infected districts, and finally locate in unhealthy portions of any large city.

Philadelphia Notes.

THE MEDICO-CHIRURGICAL COLLEGE graduated a class of forty-four on the 11th inst.

THE STATE MEDICAL SOCIETY held its annual meeting in this city from the 15th to the 18th inst. The sessions were well attended.

THE JEFFERSON MEDICAL COLLEGE COMMENCEMENT was held on the 9th inst., when 163 students were graduated. The Trustees conferred the honorary degree of Doctor of Laws upon Prof. William Goodell, M.D.

THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY of the University of Pennsylvania was formally opened on May 21 in the afternoon. An introductory address was made by Prof. William Pepper, M.D., President of the Board of Managers, followed by addresses by Prof. William Osler, M.D., of Johns Hopkins, and Prof. Harrison Allen, M.D., Director of the Institute. An elaborate program has been prepared by the Alumni Committee which has in charge the exercises for Commencement Week, in which some radical changes have been introduced in the usual routine, which will make the exercises more in accord with those of other American universities. The Baccalaureate Sermon, as the opening event of the week, will take place on Sunday evening, June 3, and will be delivered to the graduates of all departments. Monday, June 4, has been set aside as Class Day, the exercises taking place at the Chestnut Street Opera House, at 11 A.M., after which there will be a ball game, at 3 P.M., and the ivy planting on the campus at 5. In the evening the Law School will hald a banquet in the Library Building, and the Zelosophic Society will hold its annual commencement in College Hall. For Tuesday, Commencement Day, an elaborate program has been arranged. The usual exercises are to be preceded by a procession from the University grounds to the Academy of Music. The procession will be headed by Governor Pattison and his staff, Mayor Stuart and cabinet, and the City Troop, followed by the University Faculty, Trustees and students in cap and gown. The afternoon is taken up with the open track games of the Athletic Association, with several important events, and the evening by a banquet of the Alumni of the College department in the Library Building and the Philomathean Society commencement in College Hall. Wednesday has been designated as Alumni Day; Franklin's statute will be unveiled at 11 A.M., and Russell Duane, a great-grandson of Franklin, will make the address. At noon Horace Howard Furnace will make the formal transfer of a fine bust of Provost Pepper to the University. A ball game will be the attraction in the afternoon, and in the evening the Mask and Wig Club will give a benefit performance of "King Arthur," and the Veterinary department will hold a banquet. On Thursday morning the Medical School will hold its commencement exercises at the Academy of Music. The Phi Betta Kappa exercises will take place in the afternoon, the address being delivered by Hampton L. Carson. A promenade concert on the College campus is being talked of for the evening. The Sophomore Cremation has not yet been assigned a place, and it will probably have to take place on Friday evening.

Medical College Notes.

ANOTHER MISSOURI COLLEGE.—The Central Medical College of St. Joseph, Mo., has been organized to replace the Northwestern Medical College of that city—suspended because of the refusal of the Missouri State Board of Health to recognize its diplomas.

"MUSHROOM" COLLEGES.—Moved thereto by the apprehension that the degree of M.D. "is in danger of being greatly reduced by the organization of mushroom colleges in various parts of the State as well as in other States," the State Board of Medical Examiners of Iowa adopted the following resolution at its recent meeting:

"*Resolved*, That no medical college shall be recognized by this Board as in good standing until it has maintained a reputable existence for five years, provided this regulation shall not apply to colleges already so recognized."

A similar resolution of the Illinois Board, adopted in July, 1892, was rescinded at its January, 1894, meeting.

RUSH MEDICAL COLLEGE.—At the Class Day exercises of Rush Medical College, Chicago, portraits of Prof. DeLaskie Miller, and of Prof. Ephraim Ingals were presented to the College. Prof. Henry M. Lyman accepted the portrait of Prof. Ingals, on behalf of the Faculty, and Prof. John B. Hamilton accepted that of Prof. Miller. Dr. Hamilton said:

We accept from the original himself, at your hands, this faithful representation of an ideal teacher, an accomplished obstetrician, a scholar, a sagacious counselor and a patriotic citizen. Prof. DeLaskie Miller has been identified with Rush Medical College almost from its beginning, and although still vigorous in mind and body, he has been actively associated with every movement which step by step has

placed this College in the advance rank of American educational institutions. His early career as a medical journalist, and his Presidency of the Section on Obstetrics of the International Medical Congress at Washington extended a knowledge of his worth and ability beyond the confines of his city to other lands; for at the close of that now historic Congress, he had acquired friends and admirers almost to the ends of the earth. I need scarcely speak in this presence, of his long and faithful service as a Professor in this College; hundreds of Alumni have heard his voice, and thanks to the instruction those Alumni received, thousands of American citizens that otherwise might have blighted as mere experimental suggestions, were born to the glory of God and the increase of the population of the Republic. We need not enlarge on this topic; we need only say that in the presentation of this picture, the generous donor has added another jewel to the Rush Medical College collection. We read in Northern mythology of the Walhalla, that the building itself whose dome was so high that its summit could scarcely be seen, was as marvelous as the heroes whose virtues it was built to commemorate; that its location was in the midst of the grove "Mansur," where all the trees bore leaves of gold. In time this will become our Walhalla, although we lay no stress on architectural display as did those who designed that famous structure. In years to come Alumni visiting Rush Memorial Hall of the future may truthfully say of this picture, as of the "animated bust" and "storied urn" of song:

> "Bright Fancy, hovering o'er,
> Scatters from her pictured urn
> Thoughts that breathe, and words that burn."

An Adult Insane Native Killed by Driver Ants in Africa.—Dr. Robert Hamill Nassau, a medical missionary stationed at Gaboon, Africa, narrates the following incident of native life in a letter recently addressed to Dr. Thomas G. Morton, of Philadelphia, who has kindly placed it at our disposal. The following extracts may interest the readers of the JOURNAL, as they solve the question whether or not human life could be destroyed by ants, as Eugene Sue described in his "Chronicles of a Family."

After mentioning the killing of two pet gorillas by the ants, and stating that human lives have also been lost in this way, Dr. Nassau explains that this occurs only when the person or animal is tied or confined so as to be unable to escape, because "the ants do not pursue but only attack what happens to lie in their way, and they conquer by their immense number and their persistence." The case he graphically describes as follows:

"An instance occurred here some six months ago. There was a crazy man who for several years had been a nuisance in the community. He had formerly been rich, but loss of his property, *i.e.*, his wives, his goods, etc., had turned his head. He belonged properly across the Gaboon estuary, but he had wandered over on this side. Most of the time he was harmless except that he annoyed women by offers of marriage. . . . Mostly, his nuisances were entering people's houses uninvited, sitting down to eat with them and appropriating pieces of clothing, etc. He was always worse at the new and full moons; then he was really dangerous. If at all crossed in his wishes he would beat the offenders with his staff or flourish his knife, and smash plates or other furniture. People did not dare defend themselves; they dreaded his threats of revenge, or were patient, not regarding him as responsible, or awed by superstitious fears of the spirits by whom some supposed him possessed. They often complained to the French magistrate asking that he might be confined; but the government here has no place in which to confine such and treated the matter lightly, bidding the complainants to endure, that he was irresponsible, etc.

"Finally, some six months ago, complaints became so numerous that the magistrate ordered his relatives across the estuary to come and remove him. They accordingly came and with the aid of the police he was bound, placed in a canoe, and taken across the estuary.

"Until they could decide among themselves just where he should stay and who should assume the burden of the care of him, they left him bound that night in a hut. He had been protesting, shouting, and swearing; but his complaints were not heeded; even when his words were not incoherent, they were not regarded as true, (and it is currently believed that the relatives did not care to believe or understand even when they did hear, for they must have heard enough to know what was going on in the hut).

"Lying there bound in the hut and alone, a wandering army of "drivers" came across him, and attacked him. (Those ants *never* let go of a victim). He was helpless; his screams and calls were unresponded to. Those hundreds of thousands of ants filled his eyes, mouth, ears, and every opening of his body; and fiercely bit at every square inch of his entire naked body. What torture! If one were sane, those hours of agony would drive one mad!

"In the morning he was dead. The statement of the relatives that they had not supposed that the cries they heard were other than his usual mad ravings, was accepted by the government, though, by the public, quietly disbelieved. Neither the relatives nor the public were very sorry, even for the tragedy that relieved the latter of a constant dread and the former of a prospective burden."

[The Rev. Dr. H. C. McCook of Philadelphia, who has given such an interesting account of "The Ants of the Garden of the Gods" and is particularly devoted to the study of their habits, upon reading the above letter of Dr. Nassau's, wrote to Dr. Morton that the "incident of the killing of a native by the driver ants, was certainly an interesting one, though horribly realistic in its description," and requested that it be put upon record, as "an authentic case of the power and disposition of those insects to destroy human life."]

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from May 12, 1894, to May 18, 1894.

Major VAN BUREN HUBBARD, Surgeon, is granted leave of absence for four months, on surgeon's certificate of disability.

Capt. ALONZO R. CHAPIN, Asst. Surgeon, is granted leave of absence for three months, on account of disability, with permission to leave the Department of Texas.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending May 19, 1894.

Surgeon JOHN W. ROSS, placed on the retired list, May 11, 1894.

LETTERS RECEIVED.

(**A**) American Druggist Publishing Co., New York, N. Y.
(**B**) Bryan, J. D., Ottawa, Kansas; Bergen, S. C., Philadelphia, Pa.; Bassett, M. F., Quincy, Ill.; Bulkley, L. Duncan, New York, N. Y.
(**C**) Christopher, W. S., Chicago, Ill.; Cochran, Jerome, Montgomery, Ala.; Chesman, Nelson & Co., St. Louis, Mo.
(**E**) Ellis, T. B., Bethany, Mo.
(**F**) Ferguson, E. D., Troy, N.Y.; Frew, W.C., Coshocton, Ohio; Fulton, M. C., Decatur, Ga.; Fox, L. Webster, Philadelphia, Pa.
(**G**) Green, H. L., Chicago, Ill.
(**H**) Hummel, A. L., Philadelphia, Pa., 2; Hibberd, Jas. F. Richmond, Ind., 2; Haller, J., Lanark, Ill.; Hutchins, W. A., Orangeville, Ill.; Hawes, J. H., Castine, Ohio.
(**K**) Keating, John William, Ann Arbor, Mich.; Kerrick, H. C., Brocton, Ill.; King, Geo. D., New York, N. Y.; Keister, B. C., South Boston, Va.; Kelly, W. R., Watonga, O. T.
(**L**) Lehman, V., Hahnville P. O., La.; Lall, Leopold, Orange, Conn. Lord & Thomas, Chicago, Ill.; Lowrie, W. M., Chicago, Ill.
(**M**) Millard, Perry H., St. Paul, Minn.; Manley, T. H., New York, N.Y.; Magee, W. H., Duluth, Minn.; Mott, J. W., Dexter, Mo.; Mercer Chemical Co., Omaha, Neb.
(**P**) Plummer, R. H., San Francisco, Cal.; Pendleton, F. M., Chicago, Ill.; Parkinson, J. H., Sacramento, Cal.
(**R**) Rosenberger, J. L., Chicago, Ill.; Rio Chemical Co., St. Louis, Mo.; Reyburn, Robt., Washington, D. C.; Rumbold, Thos. F., San Francisco, Cal.; Rosson, John B., Tulare, Cal.; Reed, R. Harvey, Columbus, Ohio.
(**S**) Souchon, Ed., New Orleans, La.; Sercomb, H. F., Milwaukee, Wis.; Stearns, F. & Co., Detroit, Mich., 2; Sharp, Joseph, Kansas City, Mo.; Schenck, W. L., New Castle, Colo.
(**T**) The W. T. Keener Co., Chicago, Ill.; The Cincinnati Medical Journal, Cincinnati, Ohio.
(**W**) Wilkinson, George, Omaha, Neb.; Witte, Max E., Mt. Pleasant, Iowa; Wyman, H. S., Morenci, Mich.

PAMPHLETS RECEIVED

Recent Studies in Naupathia or Seasickness, by W. W. Skinner, M.D.
Relation of the Climate of the Lake Region to Catarrhal Diseases of the Respiratory Organs, by J. M. G. Carter, M.D., Sc.D., Ph.D.
Some Points on the Treatment of Typhoid Fever, by J. M. G. Carter, M.D., Sc.D., Ph.D.
Celiotomy for Bilateral Pyosalpinx followed Four Days later by Appendicitis. Operation. Recovery, by F. H. Wiggin, M.D.
Dr. Unna's Plaster-Mulls, by H. Bigelow, M.D.
On the Clinical Use and Physiological Action of Bromo-Caffeine, by J. W. Fahr, M.D.
Twentieth Annual Report, Supt. of Cincinnati Sanitarium, Nov. 30, 1893.
The Difference between Chemically Pure and Commercial Bromids.
Report of Rush Hospital for Consumption and Allied Diseases. Feb. 1, 1892–Feb. 1, 1894.
Address of Welcome to the Association of Military Surgeons, by S. C. Busey, M.D.
Brain Surgery with Report of Nine Cases, by F. C. Schaeffer, M.D.
Report of Surgical Clinic, Wesley Hospital, by F. C. Schaeffer, M.D.
Neurotrophia, Neurasthenia and Neuriatra, by C. H. Hughes, M.D.
Notes on Naval Hospitals, Medical Schools and Training School for Nurses—with Sketch of Hospital History, by J. D. Gatewood, M.D.